AMERICAN

RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

ASSISTANT EDITORS:

JAMES T. HODGE, *For Mining and Metallurgy.*
CHARLES T. JAMES, *For Manufactures and the Mechanic Arts.*
M. BUTT HEWSON, *For Civil Engineering.*

SATURDAY, JULY 6, 1850.

Second Quarto Series, Vol. VI., No 27..---Whole No. 742, Vol. XXIII.

ESTABLISHED IN 1831.

NEW-YORK:

PUBLISHED WEEKLY, BY

JOHN H. SCHULTZ & CO.

Room 12, Third Floor,

No. 136 Nassau Street.

To the Proprietors of Rolling Mills and Iron Works.

THE Undersigned—Proprietors of Townsend's Furnace and Machine Shop, Albany—are extensively engaged in the manufacture of Machinery and fixtures for Iron, and Copper Rolling Mills, and Iron Works. Having paid particular attention to the manufacture of *Rolls* (Rollers), both *chilled* and *dry-sand*, they feel confident that they can execute orders for such castings in a satisfactory manner. And to give assurance of this, they beg leave to refer to the following named persons, proprietors and managers of some of the most extensive rolling mills in the country, viz: Jno. F. Winslow, J. Tuckerman, H. Burden, W. Burtt, J. & J. Rogers, Saltus & Co., J. B. Bailey, L. G. B. Cannon, Hawkins & Atwater, etc., etc.

F. & T. TOWNSEND.

Albany, August 18, 1849.

FARMERS! ATTENTION !!

John Mayher & Co's

NEW AGRICULTURAL WAREHOUSE AND SEED STORE,

197 WATER STREET, NEW YORK.

Where they have for Sale, the largest and most complete assortment of Farming Implements, ever offered for sale in this city—all of which they will sell 10 per cent. Cheaper than the same kind of Goods can be bought at any other house in the city. Our Goods are all Warranted to give satisfaction.

FARMERS wanting to purchase, will please call and examine our *Stock* before buying elsewhere.

Among our assortment may be found the Celebrated Highest Premium Eagle Ploughs! together wilh all the most approved Ploughs now in use.

Also,—Horse Powers, Threshing Machines, Fan Mills, Corn Shellers, Straw Cutters, Corn Mills, Seed Sowers, Churns, Ox Yokes, Ox Scrapers, Hay Rakes, Horse Rakes, Patent Chain Pump (that never freezes nor rusts), and other Pumps; in fact we have everything for Farming Purposes—together with Guano, Bone Dust and other Fertilizers.

JOHN MAYHER & CO.,
197 Water st., N. Y.

February 9, 1850.

N.B.—J. M. & Co. also continue their Old Stand, at 195 Front street, near Fulton Market.

Machinery Oil.

WE the undersigned are now manufacturing an oil intended for the use of Railroads, Steamers and Manufacturing establishments. It has been in use several months and has given very general satisfaction. Our price is uniformly 70 cts. per gallon Enquiries or or orders attended to promptly. Address

ROBBINS, LANGDON & CO.,
133 Water street, corner Pine, New York.

CERTIFICATES.

Providence, March 22d, 1850.

Messrs. Robbins, Langdon & Co.,

Gentlemen: We have given your machine oil a thorough trial, and find that it possesses all the qualities that we could wish, as it works better than any sperm oil we have ever used. Our shafts that required oiling four times a day with the best sperm oil that we could get, work equally as well by the application of your oil twice a day, and your oil stands cold weather much better than any oil we have ever used. Our engineer having had years' experience in running and making engines, we put great confidence in his judgment, and he gives it as his opinion that your oil is fully equal to if not better than any he ever used; and we shall soon give you an order for more, as we do not want any other kind of oil as long as we can get yours.

Very respectfully yours,
JACKSON, CLARK & CO.

—

Bridgeport, Nov. 7th, 1849.

Messrs. Robbins, Langdon & Co.,

Gentlemen: After about three months' trial of your oil, I have come to the conclusion to use it entirely on the engines on the New York and New Haven and the New Haven and Northampton Railroads for the following reasons:

1. It wears quite as long as sperm oil.
2. So far as I have tried it, it keeps the Journals equally cool as sperm oil.
3. I have no complaint from our men about cleaning the engines, and presume it is equally as easy to clean an engine by using your oil as it is in using sperm oil.
4. I can see no reason why it is not equal to the best of sperm oil for lubricating machinery.
5. There is in my opinion a very great saving to all parties in using your oil for lubricating machinery.
6. I believe it will stand cold weather better than any sperm oil. Very respectfully yours,

R. B. MASON, Supt. N.Y. & N.H. Railway.

Steamer Bay State, Oct. 22d, 1849.

Messrs. Robbins, Langdon & Co.,

Gentlemen: In answer to your request for my testimony as to the machinery oil manufactured by you, I will say that I have used it for some time past on the Bay State, and am perfectly satisfied that your statement to me of its good qualities, is correct. As far as its lasting properties go, it wears equally long as sperm oil, runs perfectly free, and has no appearance of thickening. As seeing is better than hearing, I would recommend you to send your friends on board our boat, and they can then, by ocular demonstration, judge for themselves. Yours repectfully, JOHN GRAY,
Engineer of Steamer Bay State, Pier 3, N.R.

—

Steamboat Knickerbocker, Sept. 22, 1849.

Gentlemen: Mr. Hall, Agent of the Norwich and New London Steamboat Co., placed in my hands some of your machinery oil, which he desired me to use on the engine and other machinery, which I have done, and was so much pleased with the working, that I recommended the owners to give you their orders.

I have been using the article since August 19, and with perfect satisfaction, and I am well satisfied that your oil is as good as the best of sperm for lubricating machinery. I am yours very respectfully,

SAMUEL CARTER,
Engineer of Steamboat Knickerbocker, Pier 18, N.R.

To Messrs. Robbins, Langdon & Co.,
Oil Merchants, 133 Water street, New York.

—

Steamboat Worcester, N. York, Oct. 15, 1849.

Messrs. Robbins, Langdon & Co.,

Gentlemen: I beg to acknowledge the receipt of your letter requesting my opinion as to your oil for machinery, which I had not time to reply to previous to my return to Norwich. I have been using your oil on the engine and machinery of the Worcester with perfect success, and have much pleasure in testifying as to its good qualities. In my opinion, the journals keep cooler with your oil than with sperm, and it wears equally well. Should you at any time wish to refer to me as to your oil, I beg you will do so without hesitation. Yours respectfully, JAS. CROOKER.
Engineer Steamboat Worcester, Pier 18, N. R.

—

New York, August 3d, 1849.

Messrs. Robbins, Langdon & Co.,

Gentlemen: I received your letter in regard to your oil for machinery, which I handed to our engineer, and have much pleasure in sending you an extract from his letter to me on the subject: "I have applied the oil sent me upon our hot journals and cylinders, and find that they keep cooler with it than with sperm oil. I cannot find any fault with the oil, although I have watched it carefully. I have also tried it against an equal quantity of sperm oil, and find it wears quite as well." You are quite at liberty to show this extract to your friends, and shall be happy to give any further certificate you may require. WM. RIDER,
Treasurer Union India-rubber Co., 19 Nassau st. N.Y.

—

New York, March 22d, 1850.

Messrs. Robbins, Langdon & Co.,

Gentlemen: I have been using your machinery oil on the engine and other machinery of the Steamer Southerner running from this to Charleston, and find it equal to sperm oil. I shall continue the use of the same, and you are at liberty to refer to me at any time.

Yours respectfully, DAVID N. MAXON,
Chief Engineer Steamer Southerner.

—

Steamboat C. Vanderbilt, N. York, Oct. 11, 1849.

Messrs. Robbins, Langdon & Co.,

Gentlemen: In reply to your inquiries respecting the qualities of your machinery oil, I am happy to inform you that I have been using the article sent me for some time past, not only on the engine but on all other machinery connected with it: and from a careful and close examination, I am well satisfied that your oil is as good as the best of sperm oil for lubricating machinery. I have recommended Mr. Lockwood the agent of the company, to give you their orders.

Yours respectfully, JAMES BAKER,
Engineer Steamboat C. Vanderbilt, Pier 3, N.R.

—

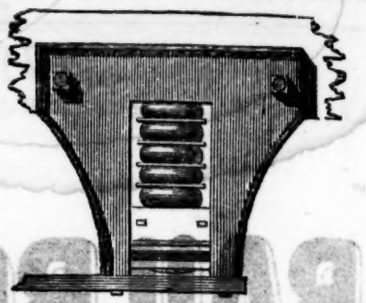
Brooklyn, August 29, 1849.

Messrs. Robbins, Langdon & Co.,

Gentlemen: Your letter of the 29th was received, and I am happy to inform you that I have used your machinery oil throughout my establishment, and I am still of the opinion that it is as good as the best of sperm oil for lubricating machinery. I should be pleased at any time to have your friends witness the working, and I am sure, after once doing so, will give you their orders. Please send me another cask by the evening of the 3d, and by so doing you will much oblige,

W. M. BURDON, Manufacturer of
Steam Engines and other Machinery, 102 Front st.

FULLER'S PATENT INDIA RUBBER SPRING.



THESE SPRINGS ARE THE CHEAPEST, the lightest and most durable of any yet known. They are easily applied to new or old cars, and there is small possibility of any accident occurring to them.

Other parties through Mr. Ray set up claims to an India Rubber Spring which, though the same in principle, is very inferior in its working and durability.—Actions are in progress for an Infringement on Fuller's Patent against parties using that Spring.

The superiority of Fuller's Spring over that claimed by Mr. Ray is fully established and has frequently been testified to. The following are from gentlemen who have had much experience with both Springs.

—

"It will afford me pleasure to recommend your springs to the companies in this region, in preference to Ray's which I am confident are inferior in mechanical arrangement to yours." JOHN M'RAE,
Engineer S. Carolina R. R., Charleston.

—

"I do not hesitate to allow you to say that I concur in Mr. M'Rae's opinion that Ray's springs are inferior in mechanical arrangement to Fuller's. I repeatedly expressed that opinion long before Mr. M'Rae had seen your springs (as I believe) and entertain it still." WM. PARKER,
Gen'l Supt. of Baltimore and Ohio R. R.

—

Office of Sup't Norwich & Worcester R.R Co.
December 26, 1849.

"I most fully concur in the opinion of Jno. McRae, Engineer of S. Carolina Railroad, that 'Rays Springs are inferior to Fuller's Springs;' and shall with pleasure recommend them to all Railroad Companies for adoption. I have used both springs on this road and have no hesitation in saying that I should in all cases prefer Fuller's Spring." SAM'L H. P. LEE, JR.,
Sup't and Engineer.

—

Office B. & P. R. R. Co.,
Boston, 20th December, 1849.

"This company have cars fitted up with both Ray's and Fuller's 'Metallic India Rubber Springs,' and I do not hesitate to say that Fuller's arrangement is *very much superior* to Ray's.
W. RAYMOND LEE, Supt.

—

The following result has been obtain d by experiment upon one railroad.

A set of Trucks fitted with Steel Springs cost	$190·77	and weigh	2355 lbs.
The same with Fuller's Springs, . . .	131·71	"	1911 lbs.
Difference, . .	$59·06	"	444 lbs.

Not only is there an advantage in the cost, but owing to the great reduction in weight, the car can be made lighter throughout, and so an enormous saving in weight may be effected in a Train.

AGENTS.

G. M. KNEVITT, 38 Broadway, N. Y.,
JOHN THORNLEY, 110 Chestnut St., Philad.
The BOSTON BELTING CO., Milk st., Boston.

January 2, 1850.

American Cast Steel.

THE ADIRONDAC STEEL MANUFACTURING CO. is now producing, from American iron, at their works at Jersey City, N.J., Cast Steel of extraordinary quality, and is prepared to supply orders for the same at prices below that of the imported article of like quality. Consumers will find it to their interest to give this a trial. Orders for all sizes of hammered cast steel, directed as above, will meet with prompt attention.

May 28, 1849.

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. VI., No. 27.] SATURDAY, JULY 6, 1850. [WHOLE No. 742, VOL. XXIII.

ASSISTANT EDITORS,

J. T. HODGE, *For Mining and Metallurgy.*

GEN. CHAS. T. JAMES, *For Manufactures and the Mechanic Arts.*

M. BUTT HEWSON, C. E., *For Civil Engineering.*

PRINCIPAL CONTENTS.

A New Project for Shortening the Passage Across the Atlantic 417
History of Railroad Locomotion 419
Telescope of Lord Rossee 420
On the construction of Permanent Way 420
English Iron Trade 421
Railroads in Vermont 421
Buffalo and State Line Railroad 421
Canandaigua Railroad 421
Patent Office Report 422
Climate of California 422
Commerce of Baltimore 422
Mad River and Lake Erie Railroad 423
Rutland Railroad 423
Cleveland and Buffalo Railroad 423
Railroad Securities 424
Remington's Bridge 424
Virginia Central Railroad 424
Galena and Chicago Railroad 425
Growth of Massachusetts 425

American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

Saturday, July 6, 1850.

Plan for Shortening the Time of Passage between New York and London.

The interest awakened upon the subject of trans-Atlantic steam navigation, has led to the publication of the following petition, addressed to the Legislature of Maine.

To the Honorable, the Senate and House of Representatives of the State of Maine, in session at Augusta, A. D. 1850:

The undersigned, citizens of Maine, respectfully request, your honorable body to cause to be surveyed and ascertained, the most practicable route for a railway, from the city of Bangor to the eastern boundary of the State, in the general direction of the city of St. John, New Brunswick; and to take such further action in the premises as will tend to favor the construction of a railroad from the city of Bangor to some good harbor on the eastern shore of Nova Scotia, or Cape Breton, best fitted to become the entrepot and terminus for the most direct line of trans-Atlantic navigation.

From the easternmost point of Nova Scotia, Cape Canso, in latitude 45° 17′ N. and in longitude 61° 3′ W. to Galway Bay, in Ireland, in latitude 53° 13′ N. and in longitude 9° 13′ W., the distance is about 2000 miles. Assuming a speed of 17 miles an hour in steam vessels, the Atlantic Ocean can be crossed between these points in *five days'* time.

The nearest good harbor to Cape Canso, Whitehaven, in lat. 45° 10′ N. long. 61° 10′ W., according to the authority of Admiral Owen, in a report on the subject made to Sir John Harvey, Sept. 5, 1846—"is the most splendid and commodious port, at the nearest available point of North America to Ireland; its natural facilities greatly exceeding those of Halifax, or any other poin: upon the coast." Galway harbor is one of the finest in the world, having great advantages over Bristol or Liverpool as a steam ship terminus.

The Gut of Canso could probably be passed by bridge; but upon this point there is at present no satisfactory information. By means of a ferry across the Gut of Canso, the line could be extended to Louisburgh harbor in Cape Breton, still further east, to a point less than 2000 miles distant from Galway Bay—as will appear by the accompanying map or plan.

From Galway to Dublin, a line of railway is nearly completed across Ireland is in actual operation from Dublin to Mullingar, a distance of fifty miles. From Dublin, the distance of sixty-three miles across the Irish Channel to Holyhead, is passed with steam packets, at the rate of 18 miles an hour, to which place the Chester and Holyhead railway is already finished, connecting with Liverpool and London—crossing the Menai Straight by the Britannia Tubular Bridge, which was opened for traffic on the 18th of March, 1850.

The route of the steamship from Liverpool to New York passes near to Cape Race in Newfoundland, Cape Breton, and Cape Canso, and thence along the coast of Nova Scotia to Cape Sable, and parallel with the general line of the coast of New Brunswick and Maine. From Cape Canso to New York the distance can be passed in about the length of line by land as by water, and in one third the time. From New York to Waterville the railway is already finished, a distance of 410 miles. From Waterville to the city of St. John, the distance would be about 200 miles; and from St. John to Whitehaven less than 250 miles further; making the entire distance from New York to Whitehaven from 800 to 900 miles in all.

From Whitehaven to the head of the Bay of Fundy, at Sackville, a feasible route for a railway has been ascertained, passing near to Pictou, thro' the valuable coal districts along the shore of the Gulf of St. Lawrence; and it is believed that the Legislature of Nova Scotia would cheerfully engage to construct that part of the line whenever the other portions are secured.

A line of railway from Halifax, passing in the vicinity of Truro, could be easily connected at some feasible point with the main trunk; and it cannot be doubted that the enterprising citizens of Halifax would engage in its construction at once. At the present time they are urging the completion of a line from Halifax to Windsor, and a survey of the route has been accomplished.

From the city of St. John to Shediac Bay, on the Gulf of St. Lawrence, a line has been surveyed for a railway on the general line of the route to Sackville, and Provincial aid to a large amount proposed. The Province of New Brunswick has recenly appropriated £60,000 currency—$240,000, to construct that portion of the distance between Shediac Bay and the Bend of the Petecodiac river—the head of navigation on the Bay of Fundy. No doubt can be entertained that the Province would extend this line from a point of connection with the Nova Scotia line to the city of St. John; and it is believed that the local business of the country between the city of St. John and Whitehaven or Canso, wonld at the present time pay a tolerable remuneration to the stockholders.

From the city of St. John to Bangor it is supposed that a route tolerably direct can be found, without encountering serious obstacles. The necessary information upon this point has never been ascertained; and it is for the purpose of asking that this service may be speedily accomplished, that we approach your honorable body. From Bangor to Waterville, private enterprise has already demonstrated the fact, that either one of several cheap and practicable routes can be adopted.

The only grant asked of the Legislature, or that will be necessary to obtain, is an appropriation sufficient to secure the completion of the remaining link in the line of surveys, and at a suitable time, the necessary grant of a charter to carry this work forward, which, from the progress of events, must soon claim the public attention.

The citizens of Maine are generally aware of the importance of the question to the best interests of the State; but the work is too great for individuals to undertake with our present means. The proper surveys once being completed, would place before the country the great advantage of the position of our State for a leading part in the commercial movements of the age. Private enterprise ought not to be so largely taxed as it must necessarily be, without the grant of aid to the proposed survey in whole or in part by the State, for the purpose of procuring valuable information, equally desired by, or at any rate of equal importance to, all. Maine ought not, either, to remain indifferent to the great advantages which may now be brought within her reach by a proper attention to the great movements in ocean steam navigation and commercial affairs.

The most strenuous efforts are now made to revive the plan of the Quebec and Halifax line;—and various projects are now engaging the attention of the British Provinces, with a view to secure in some form or other the aid of the home government. The movement is gaining favor in Great Britain.

From Halifax to Quebec the distance, according to the survey of a railroad, by Major Robinson, is 635 miles; and this road is urged upon public attention with a view to draw over it a portion of the western trade, and place the lower provinces in the great line of communication between the grain growing regions of this continent and Europe.—Without going into an extended examination of the merits of this project, it seems to us that it must strike every intelligent mind, that the most natural—the cheapest and best mode of obtaining a communication by railway between the Lower Provinces, and Montreal and the west, will be found, by extending a line of railway in the direction of Bangor and Waterville, Maine. From Waterville to Montreal, a distance of 300 miles, the entire line is finished or under contract for completion in 1852, and a branch to Quebec may be regarded as secured within three years from the present time.

The highest importance therefore attaches to every movement having reference to the extension of railways east of Bangor, or from the Lower Provinces in the direction of the St. Lawrence river.—One great central line for the whole State, and for European communication, once laid down, into which the various branch lines could enter, on either side as required—connected with a line extending to Montreal and Quebec—a system of railways would be secured surpassing in value and importance any that has yet been proposed.

It is not proposed to urge any one to embark hastily in the construction of the proposed line; but to so far present the advantages of this route for the great end in view, over any other possible line, as to secure for it such aid as in the progress of events, its advantages may call forth. If the practicability of the line were properly demonstraied, it is believed that it would command support from the great commercial interests of Great Britain and the United States. If already built, no one can doubt the value of the undertaking, as a mode of profitable investment. Those who may incline to hesitate, in yielding assent to the truth of this assertion, are invited to very carefully review the present condition of affairs.

The United States now embrace a territory of 2,187,490 square miles not organized into States, including Texas. If this whole territory was as densely populated as the State of Massachusetts, it would contain a population of over *two hundred millions* of people. The same extent of territory in Europe, under similar climate, and with fewer natural advantages, contains a still greater population, while the United Kingdom of Great Britain and Ireland has a ratio of population to the square mile more than twice as great as Massachusetts. The twenty-nine remaining states, exclusive of Texas, comprise an extent of 1,065,158 square miles more. The increase of population in the United States from 1790 to 1800, was at the rate of 35·01 per cent.; from 1800 to 1810, 36·45 per cent.; from 1810 to 1820, 33·35 per cent.; from 1820 to 1830, 33·26 per cent.; from 1830 to 1840, 32·67 per cent. It is believed that the census of 1850 will show that from 1840 to 1850, the increase has been as great as at any other period of ten years. Causes now at work tend rather to increase than diminish the ratio of increase; and many now alive will see this nation numbering *one hundred and fifty millions* of people.

Commercial intercourse between the United States and Europe has gone on increasing more rapidly than the population of the country. In the year 1820, the attempt was first made to establish a line of packet ships to Liverpool, to sail on certain stated days. Almost every one prophecied their failure, though embracing only *two* in number, and of 450 tons burden. At this time there are lines of regular sailing packets from all our large cities, embracing vessels of over 2,000 tons burden, and reaching hundreds of ships in number.

About fifteen years ago, the scientific world listened with attention to the assertion of the learned Dr. Lardner, that it was impossible to navigate the Atlantic Ocean by steam. This theory was disproved by the arrival of two steamers, the Sirius and the Great Western, in New York harbor, one from Bristol, the other from Liverpool, on the 23d day of April, 1839, both on the same day. More than *twenty* steamships during the present year will run as regular packets between this country and Europe, while the number of sailing vessels is greater than at any former period.

The number of emigrants which arrived in New York in 1838, was 25,581. In 1849, the number reached 221,799. The number which left the United Kingdom of Great Britain and Ireland for the United States in 1848, was 188,223; and the whole emigration into this country in that year exceeded 250,000. In the year 1849, the number of emigrant arrivals reached 325,000; and it is estimated that the number will exceed 400,000 the present year.

Every year gives fresh impulses to the cause of emigration to the United States, and the disturbed condition of all commercial affairs on the continent of Europe is operating to invite a better class of emigrants than heretofore, embracing much of the skill and mechanical industry of Switzerland, France and Germany.

The most indifferent observer will admit that the increase of facilities for travel with Europe must increase far more rapidly for the next ten years, than at any former period. The trade between the United States and Great Britain is constantly increasing, and at the present moment beyond any former example. The exports to England in 1830, were $24,599,666, in 1848 $71,852,315. The imports from England in 1830, were $22,755,040, in 1848 $59,763,522. Both exports and imports in 1847 exceeded those of 1848, but the extraordinary demand for food occasioned by the famine in Ireland, gave an unusual impulse to trade in that year.

A route which would enable the traveller to see an attractive portion of this continent, the best portion of Ireland, and the most extraordinary work of human skill, the Britannia Tubular Bridge would of itself invite the pleasure tourist to take this route, if no saving of time or expense were secured. But it is confidently asserted that while to the man of business the same attractions would be offered by the plan proposed, the expense of a trip to Europe can be largely reduced, while it shall save him much if not all uncertainty as to the time of his arrival, and some days time for purposes of business.

From New York to Liverpool, in the shortest line, is 3,100 miles; the route usually traversed is over 3,300 miles. By taking the railway from New York to Canso or Louisburgh, employing the swiftest steam packet from thence to Galway, crossing the great Midland railway from Galway to Dublin, a distance of about 120 miles, and from thence to Holyhead harbor, a distance of 63 miles, and from thence to London, by the Chester and Holyhead and London and Northwestern railways, a distance of 263 miles—employing about 1,200 miles of railway, and 2,000 miles of steam navigation—the passage from New York to London may be reduced to seven days' time at all events, and possibly in six days, within a few years at farthest.

This can only be achieved by shortening the sea voyage, and dispensing with the vast weight of coal and other superfluous load now carried. Vessels designed for crossing the ocean with speed, should be relieved of all load not requisite for steadiness and good carriage. Ordinary merchandise will always go more cheaply in sailing vessels. Valuable goods could be transferred to boats of still greater speed, from the ocean terminus, running it necessary to the various Atlantic cities, if too bulky to go by the railway. In this way, the safest and swiftest passage would be secured. In a few years instead of a semi-weekly, a daily arrival of steamships may be expected.

One hundred *through* passengers a day each way by the railway, would give a most profitable business to the road, in addition to its local business; and the highest price would readily be paid for the carrying of the mails. The British and the American governments would willingly enter into a perpetual or permanent contract for this service, at rates of compensation representing a capital equal to one-third of the entire cost of the line. If the proper surveys were now completed, and the necessary charters granted, for a continuous line from Bangor to Whitehaven or Halifax, the scheme would offer inducements for the employment of capital, unsurpassed by any enterprise of the age.

Looking forward but 25 years only, we shall see this government containing *fifty millions* of people. Its great rivers and inland seas—its mineral wealth and inexhaustible soil—within a latitude favorable to health of body and vigor of mind—all conspire to give the fullest developement to the spirit of progress, requisite to supply means for the fullest gratification of every want known in the highest civilization.

Under any form of government known to civilized man, the progress of the race would be, under such influences, rapid and vigorous. When, therefore, an enterprising race, in the possession of such physical advantages as this country possesses, are stimulated to exertion by the action of a free government upon the energies of the whole people, we may confidently expect a higher developement in the ideas and institutions of society, and a more practical application of knowledge to the wants and necessities of life.

Maine, from her frontier position and severe climate, has been heretofore regarded as the least favored of all the States in the Union; while it has the power to become the great manufacturing and great ship owning state of the Confederacy, if not the first in point of commercial importance.—Our climate and our geographical position, generally spoken of as our misfortunes, are in fact the great elements of our strength. The increased necessities which our climate imposes upon us, beyond those of a warmer latitude, are far more than compensated by our superior capacity for labor, our greater power of endurance, and our extraordinary fondness for exertion. With a more extended line of sea coast than any other State in the Union, and more good harbors than all the other states together, Maine will present at some future day, along her bays and rivers, a line of cities surpassing those which are now found upon the shores of the English Channel, or the Baltic Sea.

The result will be hastened by attracting into our state the great stream of European business and travel, where it shall divide into two great channels—one flowing northward into the St. Lawrence valley and the west, the other flowing southward to to the great commercial cities of the continent.

Without the fertile soil of the west, or the rich deposits of coal and iron of Pennsylvania, Maine for twenty years past has not kept pace with the ratio of increase of the whole country. From 1820 to 1830, the ratio of her increase was 33·9 per cent. or about the same as that of the whole Union.—From 1830 to 1840, the rate of increase was only 26·2 per cent. Notwithstanding the healthiness of our climate, the extent of our public lands, with all the facilities inviting emigration from the more densely populated districts of New England, emigration into the state had become nearly stationary, and the tendency of our people to emigrate west remained unchecked, till the movement was made to construct a railroad from Portland to Montreal. The effect of that movement is already apparent upon the character, the enterprise, and the business of the state. A small portion only of the energy which has been applied to that undertaking, will speedily accomplish the end now proposed;—favorably affecting that great enterprise, and all the leading interests of Maine.

The time is not regarded by some persons as particularly favorable for entering upon new enterprises. The great interests of Maine, shipbuilding and lumber, for some three years past have been severely depressed, furnishing less returns even than investments in railways. These, in common with other business interests, are destined at times to suffer. Railway property will, however, advance in value with the growth and increase of business in the State; while it will also tend to foster industry and stimulate production in every department of labor, beyond any other mode of investment.

It is in vain to expect to retain the natural increase of our population without holding out inducements for labor beyond what are offered by the pursuits of agriculture and lumbering; and we have failed so far to attract to this state the most valuable class of emigrants, that seek for a climate and soil similar to that of Germany and Switzerland, which resembles their own. If proper encouragement was held out to them, we might expect the emigrants from the north of Europe to prefer the soil and climate of Maine to that of the Mississippi valley. Instead of this, for a series of years we

have been compelled to witness the gradual withdrawal of much of our capital into enterprises of the other states, and a departure from among us of many of the most enterprising of the young men of Maine. Real estate has advanced but moderately in value for the last fifteen years, while the new states have grown up within that brief period into wealth and importance. Our frontier position, and the want of a proper state pride and state policy, have been pointed out as the principal hindrances to the growth of Maine. The opening of the great avenues already in progress and proposed, placing Maine in the direct line of the great commercial intercourse of the globe, will create new relations in every department of business, and call into exercise such agencies as will soon give to Maine a strength and a position equal to that of any portion of the Union.

The present period seems to us favorable for the proposed movement. An experiment is now making to run steamships from Galway to Halifax, aided by the great Midland railway company of Ireland. The capital of this company is £2,596,666, or more than 12,000,000 of dollars.

This company has a direct interest to subserve in inviting the travel between this country and Europe upon its road. The same is true also of the Chester and Holyhead and the London and Northwestern railway companies. These companies, with their various branch lines—under one management—embrace nearly one eighth of the entire traffic of the United Kingdom. The London and Northwestern railway company, Aug. 1, 1849, owned 478 1-2 miles of road already finished—built at a cost of £30,617,620, or $150,000,000—60 3-4 miles more in progress, and held the leases of over 200 miles more—including the Chester and Holyhead railway, representing a capital of at least 200,000,000 of dollars. Amid all the depressions of railway stocks and business, for the last few years in England, the stock of this company has never been sold except above par; and by the present advices from Europe, was selling at an advance.—The influence of this capital will be brought at once, in aid of any line that shall bring across Ireland to Dublin the travel of this continent. The same motive which induced the British government to aid the construction of the Britannia Bridge—to obtain the most direct route from London to Ireland—will lead them to favor the plan herein proposed.

Believing, therefore, that the state has only to display to the business community the practicability and advantages of this great route thro' Maine, to ensure at the proper time its completion, we respectfully ask your honorable body to cause the line from Bangor to St. John to be surveyed at the expense of the state, and such further measures adopted as will give proper encouragement to the undertaking.

June 12th, 1850.

JOHN A. POOR,
JOSIAH S. LITTLE,
JAMES B. CAHOON,
JOHN M. WOOD,
CHARLES Q. CLAPP,
FRANCIS O. J. SMITH,
LUTHER JEWETT.

From the Glasgow Practical Mechanics Journal.

A Chapter in the History of Railway Locomotion.

Continued from page 387.

Shortly after this trial, Mr. Stephenson being anxious to investigate the "Sanspareil's" blast pipe, despatched a nocturnal visitant to inspect it, and take its dimensions. Our informant on this little piece of finesse, is the actual person who made the survey—he is still living. The result of the observations which he made was, that a similar blast pipe was constructed and fitted to the "Rocket." The actual working efficiency of the Sanspareil has been tolerably illustrated in Mr. Armstrong's work on steam boilers, where he says that—"the original Sanspareil of Mr. Hackworth, which all but successfully competed for the prize at the opening of the Liverpool and Manchester railway, may still be seen regularly working on the Bolton and Leigh railway, apparently not much worse for seven years' constant work, the boiler never having required any essential repair, while its contemporary rivals, that have escaped the fate of the 'scrap heap,' have been remade, and mended over and over again, since the celebrated race at Rainhill, a fact which goes far to prove that the principle of this engine has not been so very much improved upon, except that it is not so well calculated for burning coke as coal.—The Sanspareil may frequently be seen at the Kenyon Junction, waiting for the Bolton trains from Liverpool, and plans of it may be seen in Dr. Lardner's work."

In one point the Rocket possessed a feature of eminent superiority, which has since proved to be the main-stay of the modern locomotive—in the small flue tubes—the invention of Mr. Henry Booth, the talented secretary of the Liverpool and Manchester line, to whom railways owe much of their present practical efficiency.

The extreme lightness of the engines insisted on by the directors, led to an objection against the Sanspareil, on the ground of an excess of weight; but it was forgotten, that although in gross weight she exceeded her rival, yet on neither pair of wheels was there so great a pressure as in the latter. At this time, when each engineer was feeling his way, some curious specimens of locomotive mechanism were turned out. A letter written to Mr. Hackworth, by one of the directors of the Stockton and Darlington line, gives a facetious account of an engine supplied to that line by Messrs. Stephenson—"I should have been extremely glad to have heard that fair play had been allowed to the different engine makers who were competitors for the premium; from the very cool reception that a *Timothy* received from Forth street, George showed very plainly that he was much afraid of the Shildon production; and well they might, as they well know that every engine which they have yet sent, has had great need of mending. The new one last sent was at work scarcely a week before it was completely condemned, and not fit to be used in its present state. The hand gear and valves have no control in working it. When standing without the wagons at Tulley's a few days ago, it started by itself when the steam was shut off, and all that Jem Stephenson* could do, he could not stop it—it ran down the branch with such speed, that old Jem was crying out for help, every one expecting to see them dashed to atoms; the depots being quite clear of wagons, this would have been the case, had not the teamers and others thrown blocks in the way, and fortunately threw it off.

"A similar occurrence took place on the following day, in going down to Stockton. As soon as the wagons were unhooked at the top of the run away goes *Maniac!* defying all the power and skill of her jockey, old Jem, nor could it be stopped till it arrived near the staiths. Had a coach been on the road coming up, its passengers would have been in a most dangerous position. The force pump is nearly useless, having had, every day it was at work, to fill the boiler with pails at each of the watering places. No fewer than three times the lead plug has melted out. This Maniac was a Forth street production, and at last was obliged to be towed up to the *hospital* by a real Timothy† in front, on six wheels, and actually had twenty-four wagons in the rear as guard. It is now at headquarters at Shildon.

"From what I have heard of the doings with you it appears that the engine which had *a Booth* as the inventor of the copper pipes in the boiler, was, without either judge or jury, to be the winner."

On Mr. Hackworth's return from Liverpool, he found the Rocket lodged in the shed, awaiting his arrival: and, as the company's engineer, he had to put her in the best possible repair. From the defective construction of the hand-gear, and the imperfection of her force-pump, these details had to be completely remodelled.

The next engine which figured conspicuously on the Stockton and Darlington line was the "Globe," which was the first ever designed with a crank-axle. She was built from Mr. Hackworth's designs, by Messrs. Stephenson, as the Railway Company's hand's were too full to allow of the work being done at their private establishment. The novelties carried out in her were—the crank-axle working by cylinders beneath the boiler, and a modification in the hand-gear, whereby the reversing was effected by a single lever—two drivers being placed on the axle, one on each side of the pair of eccentric sheaves. The wheels were four in number, 5 feet diameter, being the largest then in use. A single flue ran straight through the boiler, having the fire-grate in one end. A number of small tubes were also passed through the diameter of the main flue, so as to form a species of spiral, the water being allowed to circulate through them. This arrangement effectively exposed a considerable surface to the action of the heat; and her steam-generating powers were much superior to any other engine of her time, having the same area of heating surface. Still, at this date, a great objection existed in the slow circulation of the water through the tubes, and the consequent accumulation of mud in the horizontal tubes, which, forming an incrustation, speedily destroyed them. Another novelty in her construction was the placing a copper globe on the top of the boiler, to serve as a steam receiving dome—hence arose her name. This engine opened the branch line between Stockton and Middlesbro', a distance of four miles. Her rate was frequently fifty miles per hour.

All constructive innovations are invariably looked upon with distrust by the merely practical man—and when the designs for this first crank-axle engine were laid before Messrs. Stephenson for their execution, an objection was raised by one of the officials of the establishment, that the crank axle would certainly involve a loss of power, as the efficient length of lever could only be calculated from the inside of the journal to the axle's centre.

In 1830, an increase of traffic on the Stockton and Darlington line, requiring an addition to the working stock of engines, two different modifications were designed by Mr. Hackworth. Both these were six wheelers, spring mounted, and coupled throughout; the boiler of the first kind being 13 feet long. The flue consisted of a main tube 9 feet long, by 2 feet 6 inches diameter, in one end of which the fire grates were inserted. The other end was separated from the boiler by a partition-plate, into which a number of small copper tubes, 4 feet in length, were inserted, for the conveyance of the vapor through the remaining portion of the boiler to the smoke box, which was at the contrary end to the fire. The cylinders were placed vertically at one end of the boiler, their connecting rods being attached to a crank shaft directly beneath.—This was a plain shaft, with two cranks keyed on its ends at right angles to each other. From these cranks, coupling rods passed to similar cranks on

* Brother to the late Mr. George Stephenson.

† Royal George engine.

the axles of the whole set of wheels. The slide valves were actuated by two eccentrics, having a single lever reversing apparatus; the force pumps being worked by the same eccentrics.

In the second arrangement, the distinctive feature was in the heating surface—the valve gearing, cylinders, wheels and connections being as before, except that the cylinders were mounted on framing projecting six feet from the boiler. The boiler was ten feet long, by 4 feet 4 inches diameter, and the arrangement of heating surface presented some novelties now much in use in the northern English counties, and termed a "return multitubular fire tube." It consisted of a main tube, 2 feet 4 inches diameter at the large end, reduced to 2 feet at the opposite end, and 8 feet long. The large end contained the fire grates, and at the small end, a box of a D shape was placed to receive the heated vapor after its passage through the main tube, conveying it back again through the water by a number of small copper tubes, surrounding the large tube on all sides except the bottom, being inserted in the tube box at one end, and in the plate forming the end of the boiler at the other. At the fire end, a semicircular box carried the smoke into the chimney. This arrangement proved to be the best of its day for the general traffic of the line, as well in its economy as in its durability, the flues having been repeatedly known to wear for six years without removal. It also afforded the means of a convenient removal of the heating surface, so that in an engine provided with a duplicate heating surface, the old one could be removed and a new one added, ready for work within three days. It is said that these engines have performed a greater amount of duty than any others extant.

We have now glanced at the various gradations of improvement in the early stages of locomotive building, which it is impossible to contemplate without paying a deserved tribute to the great ability displayed in this branch by Mr. Hackworth, at a time when everything had to be learned—when, indeed, engineers were utterly thrown upon their own resources. No later than 1846, one of the agents of the Stockton and Darlington company stated, in reference to the first class of engines we have described, that, "take them weight for weight they surpass any engine on the line."

If George Stephenson deserved the title of the "Father of Railways," we think we may at least claim for Timothy Hackworth that of the "Father of Locomotives."

Lord Rosse's Telescope and the Binary Stars.

We extract from a recent English publication the following interesting remarks on the discoveries made by Lord Rosse's telescope respecting the phenomena of binary and multiple stars. The concluding suggestions open a new world of speculation in astronomy and geology, and afford materials for thought such as very few scientific discoveries have presented to the curiosity of man:

To Sir William Herschell the honor of discovering this extraordinary combination of the heavenly bodies is due. That great man remarked that there were many instances o ftwo stars being placed so close together as to appear to the eye as one, it being only by means of the telescope that their separate orbs could be descried. This might, no doubt, if it happened in one or two instances, have been the accidental effect of their rays combining as they reached the earth—the stars themselves being sufficiently far apart in distance, if not in direction. But extended observations soon showed that this combination occurred far too frequently to be the mere effect of accidental similarity of direction; there is no position in astronomy better established than the fact, that two, three or more stars, may be found in combination revolving round each other, and exercising a combined influence on the planetary systems relating to each. The matter has been especially followed up by Sir John Herschell, the illustrious son of an illustrious sire, and his speculations are not among the least interesting which are brought before the reader. It has long been known, and may in fact be detected without the aid of an instrument, that the stars are not all of a uniform color. The same diversity prevails among the combined stars, and in all probability that diversity will be felt in the planets under their control. "It may be easier suggested in words," says Sir John, "than conceived in imagination, what a variety of illumination two stars—a red and a green, or a yellow and a blue one—must afford a planet circulating around either, and what cheering contrasts and grateful vicissitudes a red and green day, alternating with a white one and with darkness, must arise from the presence or absence of one or other, or both from the horizon."

But the most important consideration arising out of a view of these complex arrangements, is the duration of the season thus caused by their combined influence, as ascertained by the orbits in which the stars and their systems move. In our own system, the centre of gravity, undisturbed by any other large mass, lies near the centre of the sun, and the planets accordingly roll round that luminary in an orbit so nearly circular as to produce seasons of almost equal duration. But it is not so with the complex systems under consideration. In the presence of several luminaries, each of them exerting the force of attraction, in proportion to their bulk, the centre of gravity must reside with neither, but at some point apart from both; and hence the motion of the dependant planets must be more or less elliptical, considered in relation to the suns on which they depend, according to the complexity of the arrangement. This shows how recent discoveries in astronomy may be made to throw light upon the not less extraordinary disclosures of the sister science of geology.

When speaking of the double stars, I offered some general remarks on the changing distances of these orbs: and the effect of such changes on schemes of planets connected with them. Let us look again at the subject, in reference to the more complex system now before us. The result of the *ellipticity* of the orbs of the closer pair, within the large curve of the diagram immediately preceding is—as I have explained—to give a planet rolling around either sun *two sets of seasons*—one depending on its own revolution or year, and the other on *the revolution of its sun*; for during this latter cycle—fifty-eight years in the case of CANCRI—it might be carried from a distance to that neighbor orb, as far as NEPTUNE, is from a luminary, to a proximity as great as VENUS enjoys. In reality, here are years, with their varying seasons, of different lengths, inseparably intermingling; nay, the course of the shorter year can be reckoned an *incident* only—a recurring variety—within that larger one, which doubtless always comprehends many of its returns. As the grand summer and winter succeed there must come and pass away numbers of minor periods of comparative life and luxuriance, diversifying that longer course; but only when the planet's summer coincides with the summer of its sun, will the glory of its seasons attain its culmination. In the scene before us there is, however, yet another element. Passing slowly along a career far more majestic, another orb is advancing, with a cycle of seasons grander still. That orb brings its *third* summer to superadd to the foregoing complexity—one which, in the case we have spoken of, arrives but once in six hundred years; and who shall picture or conceive the effects on all life, on all action, and every internal arrangement of these orbs and their dependants, when, in virtue of the mechanism they constitute, the three suns attain their greatest proximity and shower on each other their most abundant influences.

Nor are cycles thus momentous limited in in their periods. I spoke before of MIZAR and ALCOR. One of these is a double star, and with the distant ALCOR, that inferior system forms a scheme such as I have just described, except that its grand year—that of intense summer and deepest winter—may return only after 180,000 of our terrene units! Would we seek an analogon amid phenomena of the earth to alternations thus stupendous? There is no point of precise resemblance, but can one unroll the mysterious volume of which our rocks are the various leaves, without discerning indications of what also may be grand summers—periods of intense, all vivifying heat—under whose beneficence a tropic vegetation covered the Poles? In a previous page I used the word *bouleversement* or *catastrophe*, and truly, when one thinks of the immense width of fluctuation inevitable on provisions like these, or of the opposite conditions of every member of such a system in different epochs of its existence; still farther, if, as alone we know of the remote past, or even the larger relation of the present, fragments, rapid glimpses of movements far apart, or of detached portions of such a system, were all that rested under the eye, how could the word catastrophe be avoided on the idea of something diverse from peaceful and solemn Law, which by overthrowing order had instituted disturbance and change! Yet, in the deep quiet of the night, look at a triple star, and with your reason follow the motions of its orbs! So would confusion vanish and perplexity be felt no more if, from a height superior to that which is his summit now, Man could behold unwinding the full destinies of the World.

Institution of Civil Engineers.

The paper read was "On the Construction of the Permanent Way of Railways; with an account of the Wrought Iron Permanent Way, laid down on the Main Line of the North Midland Railway," by Mr. W. H. Barlow, M. Inst. C.E.

The author commenced by entering into the question of the maintenance and renewal of the ordinary railways, analysing very minutely the expenses under the different heads, and showing to what causes the derangement of the line might be attributed. The cost of maintenance was stated to be dependant on two causes—the effect of weather, &c., and the disturbance produced by traffic; and from a summary of the expenditure of the different lines belonging to the Midland company, it appeared that the former amounted to £20 or £30 per mile per annum, and the latter varied from 2d. to 2·7d. per train per mile. After a line was consolidated, by far the greater part of this expenditure was due to the derangement caused by the passage of the trains, which first produced an uneven joint, then loosened the joint key, and then disturbed the sleeper, so that at length the whole of the permanent way generally was degraded. With regard to renewal, it had been estimated by the officers, of the London and Northwestern railway, that on their line the rails would last 20 years, and the sleepers, if "creosoted," 20 years, but if unprepared only twelve years; now, as the duration of service of the rails was dependant on the amount of the traffic, and that of the sleepers on the weather, it was quite evident that on lines having less traffic than the London and Northwestern, the proportionate expense of renewing the sleepers would be much greater, and would increase as the amount of traffic diminished.

In endeavoring to seek a remedy for this, the author conceived that, by inereasing the dimensions of the bridge rail, sufficient width might be obtained for it to take its own bearing in the ballast, without the use of either transverse sleepers or longitudinal supports; and, moreover, that such a construction would possess great strength, be very durable, and be capable of being renewed at moderate expense. He therefore proposed a bridge rail, 13 in. in width, 5¼ in. in depth, and weighing 126 lbs. per lineal yard. There was some difficulty at first in getting it manufactured, but Messrs. Bolckow and Vaughan, of Middlesborough-on-Tees, had overcome all the practical difficulties, and now produced rails of the required size, with hard metal in the upper portion, and ductile metal in the lower, by which both durability and strength were insured. The joint was made by either a cast or wrought iron chair, or saddle, which received the ends of the rails, and into which they were keyed with wooden keys. The guage was preserved by means of a tie-bar, fitted and keyed into sockets on the chairs.

An experimental length of road on this construction had been laid down on the main line of the

North Midland railway, the cost of which was £3323 per mile; but it was thought that, in future, this might be reduced to 2487 per mile, by reducing the weight of the rails to 100 lbs. per yard, and the chairs in proportion, as it was found by experiment that those rails were greatly in excess of strength being as much as three times stronger than that of the ordinary double-headed rail.

A mile of road had also been laid upon the same line, with cast iron sleepers adapted to the ordinary rail, as introduced by Mr. P. W. Barlow, M. Inst. C.E.; and another mile had been laid with these cast iron sleepers at the joints only, but having intermediate sleepers of timber. The motion of the trains over their several experimental lengths was firm and steady, there being no perceptible difference between the two latter descriptions.

In the discussion which ensued, in which Messrs. Hawkshaw, I. K. Brunel, Locke, M.P., P. W. and W. H. Barlow, and Glynn, took part, the relative advantages and disadvantages of the different systems of permanent way in present use were discussed, and also, in some slight degree, compared with that proposed by Mr. W. H. Barlow; but it appeared to be a general opinion, that no one system of laying a permanent road could at present claim a great superiority over any other; and that, in reality, much more depended on the good quality of the materials used in its construction, than in any particular way of laying it. The objects to be attained were—simplicity of construction, so that there should be as few parts as possible to get out of order, a perfect joint, and economy of maintenance; and though the two first of these desiderata were admitted to be obtained in a permanent way with bridge-shaped rails and longitudinal timber sleepers, it was contended that they were, to some extent, counter-balanced in a road laid in the ordinary manner, with double-headed rails and cast iron chairs, as in some instances, after being turned, the second table was found to be more durable than the first.

Whatever might be the result of the discussion, it was admitted that the subject was one of great importance, and that the introduction of any improvement in so vital a point as the "permanent way," would confer a great boon on railway property.—*Min. Jour.*

The English Iron Trade.

SIR—Having been carefully watching the course of the iron trade generally, and especially that of Scotch pig iron, the fears expressed, in my letter published in your Journal of the 13th April, that unless the demand was sufficient to raise the prices permanently, a *decrease* would take place in the production, it is now quite evident that such anticipations were correct, as the makers have determined to blow out one-third of the furnaces lately in blast; and this determination is now being carried out. At the present time, there are about 45 furnaces out, owing to the strike of the colliers. How long this strike may continue is uncertain; but should the colliers determine to accept the master's terms, still one-third will remain out for at least two months, and probably until a higher range of prices is established than has existed during the last two years, and pig iron become once more remunerating to the makers. The object appears likely to be attained, as the reduced make will, from present appearances, be soon overtaken by the consumption; for upwards of 41,000 tons were shipped during the month of April, and to this must be added the quantity taken for local consumption by foundries and malleable iron works, which is variously estimated at from 5500 to 6000 tons per week; but may be safely taken at the lower quantity, say 22,000 tons per month.

Now, if 15 furnaces, which belong to the malleable iron makers, and consume *all* their make, are deducted from the total nnmber in blast at the commencement of the year, there remain 97 furnaces; of these, one-third are put out by the makers, leaving only 65 furnaces to supply the general demand, even should the colliers return to work.

If the quantity of iron produced by the above 15 furnaces (say 1700 tons per week) be deducted from the quantity consumed locally (say 5500 tons) there remains 3800 tons per week, or 15,200 tons per month, which, added to the shipments for April, gives a total of upwards of 56,000 tons for shipments and consumption generally; so that, if the demand continues in the same proportion, which, however, can scarcely be expected, the stock at the end of the year would be reduced to almost nothing; but I assume that, for the remaining eight months, from May to December inclusive, the shipments will reach the monthly average of last year—viz:

31,500×8=252,000	shipments.	65 furnaces×110 tons of	merchantable iron for sale, after deducting their own consumpt'n=
15,200×8=121,600	local cons.	7150	
373,600	gen.	35 weeks.	
250,250			
230,000	present stock. as generally estimated.		
480,250			
373,600			
106,650	tons stock, Dec. 31, 1850.		

You will observe, it is assumed, that the shipments will only reach the average monthly shipments of last year; but as they have considerably increased in April, and it is generally believed that the stocks as Runcorn and Fleetwood are considerably *reduced*, it may fairly be presumed that more will be shipped during the present year than during the last, and the stock, consequently, be further decreased.

I hand you a statement of the shipments for April:—

From Bromielaw, Port Dundas, and Kirkintilloch.....Tons	23,797
From Ayr, Ardrossan, Troon, and Linne...	9,501
From Charlston, Bo'ness, Leith, and Alloa.	6,728
From Greenock and Port Glasgow.....	1,550
Total.....	41,576

Vermont.

Vermont Central Railroad.—The directors of this road have just issued a circular stating its condition and prospects, of which we copy as follows:

This road extends from Windsor to the lake shore at Burlington, one hundred and sixteen and one-tenth miles; and is finished with the exception of two miles in Burlington, which will be completed in August.

The cost, estimating the stock at the price of the last issue and present market value, would be as follows:

100,000 shares stock at $30.....		$3,000,000
Bonds issued.....	597,000	
Bonds to be issued for payment of interest.....	284,122	
	881,122	
Less assets specially applicable for payment of bonds.....	281,122	
		600,000
		$3,600,000

The issue of 50,000 shares at $30 gives $1,500,000, which, added to the other resources of the company, will, in the opinion of the directors, pay with the exception of the bonds for $600,000, as above stated, the entire debts of the corporation, and leave $300,000 for finishing the road, and the income hereafter will be applied to dividends.

Vermont and Canada Railroad.—This road, for which the means are provided, extends from Essex, a point on the Central about seven miles on the Burlington, to Rouse's Point. It is about forty five miles in length. Its grading throughout the line will be finished in August, and the bridging and materials are in such a state of forwardness as to render it certain that it will be open in October.

The cost of the road will not exceed, it is believed, $17,000 per mile, or $765,000.

This has been taken on a permanent lease by the Vermont Central, at a rent equal to eight per cent. on its cost—representing a capital of $1,020,000, at six per cent.; on which, in the opinion of those acquainted with the country, it will pay the interest by local trade.

The above estimate is made on shares at the last issue, and present market value of $30 per share; at this rate, the two roads considered as one, would cost $4,620,000, or about $28,695 per mile.

Estimated at cost to shareholders who have taken all the issues, it would be as follows:

20,000 shares at $100 per share.....	$2,000,000
30,000 " 50 "	1,500,000
50,000 " 30 "	1,500,000
Bonds as above.....	600,000
Vermont and Canada railroad as above.	1,020,000
	$6,620,000

or about $41,118 per mile.

New York.

The Buffalo and State Line railroad enterprise is now placed beyond a contingency, and will be prosecuted to as speedy a completion as practicable.—The whole line is under contract and operations have been commenced.

A meeting was held in Buffalo recently, to consider the project of a railroad from Corning to Buffalo, thro' the Cohocton valley, by way of Blood's Corners, Caledonia, Le Roy and Batavia. The distance is 130 miles. Steuben county stands ready to build the road to Blood's Corners, 45 miles.—The people of Livingston were also warmly in favor of the enterprise, so also were those of Genesee. The friends of the Attica and Hornellsville road, to construct which $750,000 had been subscribed, were willing to abandon their enterprise and unite with the Corning project. The following committee was appointed to adopt measures for the organization of the company, viz:

Messrs. Magee and Cook, of Bath; Upham and Lampson, of Le Roy; Pringle and Cary, of Batavia; Ketchum, Tillinghast, Dudley, Phelps, Barton and Haywood, of Buffalo; and Wadsworth, of Geneseo.

A committee of Buffalonians was also authorised to solicit subscriptions. It is said that this road will bring Buffalo 30 miles nearer New York than any other route.

Canandaigua and Corning Railroad.—Marvin Porter, Esq., has been appointed Chief Engineer, and with his assistants has proceeded to strike out the route.

The arrangements for the consolidation of the Auburn and Rochester and Syracuse and Auburn railroads are nearly completed, and it will take place, we understand, on the 1st of August. Previously to the union it is understood that the Auburn and Rochester road will declare a stock dividend of 15 per cent. and a cash dividend of 10 per cent., and the Syracuse and Auburn road a stock dividend of 15 per cent., and a further stock or cash dividend of 4 per cent. The recent considerable rise in these stocks has been occasioned by the anticipation of these dividends.

The total receipts of the two companies from January 1st. 1850, to June 1st, 1850, is.	$301,417 62
For same time in 1849.....	239,317 06
Increase in 1850.....	$64,100 56

or 27·5 per cent.

Erie Canal.—The quantity of flour, wheat, corn and barley left at tide water during the 3d week in June, in the years 1849 and 1850, were as follows:

	Flour. barrels.	Wheat. bushels.	Corn. bushels.	Barley. bushels.
1849....	106,207	101,846	493,808	2,045
1850....	74,986	35,050	228,719	40
Decrease	31,221	66,796	265,089	2,005

The aggregate quantity of the same articles left

at tide water, from the commencement of navigation to the 22d of June, inclusive, during the years 1849 and 1850, is as follows:

	Flour.	Wheat.	Corn.	Barley.
1849	664,767	364,105	1,723,884	94,081
1850	573,310	197,824	921,752	110,625
Decrease	91,457	166,281	802,132	inc.16,544

The aggregate quantity of the same articles left at tide water, from the commencement of navigation to the 22d of June, inclusive, during the years 1848 and 1850, is as follows:

	Flour.	Wheat.	Corn.	Barley.
1848	589,680	541,466	421,568	96,808
1850	573,310	197,824	921,752	110,625
Decrease	16,370	343,642	inc.500,184	13,817

By reducing the wheat to flour, the quantity of the latter left at tide water this year, compared with the corresponding period of last year, shows a decrease of 124,713 barrels of flour.

Massachusetts Dividends.

The following dividends were paid in Boston on or about Monday, July 1st:

When paid.	Stocks.	Capital.	Div'd.	Amt.
July 1st.	Western railroad	5,150,000	4 p. ct.	206,000
"	Fitchburg,do	3,320,000	4	132,800
"	Boston and Lowell, do.	1,830,000	4	73,200
"	Boston and Wor. do	4,500,000	3	135,000
"	Boston and Maine, do.	4,155,700	3	124,671
"	Boston and Prov. do	3,160,000	2½	79,000
"	Manches. & Law. do	500,000	3	15,000
"	Connec. and Passum. do	1,086,400	3	32,592
"	Pittsfield and N.Adams	45,000	3	13,500
"	Dorches. and Milton, do.	130,000	3	3,900
"	on bonds			4,000
Interest on Old Colony railroad bonds				10,000
"	Cheshire " "			18,921
"	Albany bonds western "			30,000
"	Michigan Central "			25,000
"	Vermont do. bonds payable 1852.			9,030
"	Vermont and Massachusetts do.			16,000
"	United States loan about			20,000
"	Boston city stock			40,000
"	Massachusetts 5 per cent. do			12,500
"	Norwich city do			6,000
Middlesex Manuf. Co.		1,000,000	3 p. ct.	30,000
Manches. Print Works.		1,200,000	4	48,000
Nashua Manuf. Co.		1,000,000	3	30,000
Chicopee do		700,000	2	14,000
Jackson do		480,000	3	14,400
Cabot do		500,000	3	15,000
Lowell do	on 1900 shares $20 per share.			38,000
Clinton do		400,000	7½	30,000
Cocheco do	on 2000 shares $26 per share.			52,000
New England Worsted do		450,000		
Franklin Insurance Co.		300,000	10	30,000
American do		300,000	10	30,000
				$1,518,514
July 8.	Boston and Sandwich Glass Co. $300,000 3 per ct			$9,000
"	Lancaster Mills on 2000 shares $13½			27,000
" 10.	Boston Exchange Co. $325,000		3½	11,725
" 15.	Eastern railroad $2,850,000		4	114,000
" "	N.H. 492,500		4	19,700
" "	Interest on Massachusetts State 5 per cent. stock issued for the Western railroad company			24,875
				$1,724,814

There are several other payments of dividends and interest to be made during the month, which it has been impossible for us to obtain with correctness, and which will greatly increase the amount.

The Patent Office report contains the following meteorological tables and statistics respecting the temperature and fall of rail in various parts of the United States, compiled from the accounts received at that office:

MEAN ANNUAL DEPTH OF RAIN.

	Inches.
Fort Constitution, N. H	28·85
Watertown Arsenal, Mass	39·69
Fort Hamilton, N. Y	45·71
Hancock Barracks, N. Y	36·92
Watervliet Arsenal, N. Y	34·22
West Point, N. Y	48·70
Alleghany Arsenal, Penn	28·14
Dearbonville Arsenal, Mich	31·30
Fort Brady, Mich	31·89
" Howard, Mich	38·83
" Winnebago, Mich	31·88
" Snelling, Minesota	30·32
" Crawford, Wisconsin	29·54
" Leavenworth, Missouri	32·68
St. Louis Arsenal, Mo	24·12
Fort Smith, Arkansas	35·64
" Gibson, "	30·64
" Towson, "	46·73
New Orleans Barracks, La	51·85
Fort Wood, La	47·90
Key West, Florida	31·39
Charleston, S. C	33·89
Fort Monroe, Va	52·53
" McHenry, Md	40·80
Washington, D. C	34·62
Baltimore, Md	39·90
Boston, Mass	39·23
Hanover, N. H	38·00
State of New York	36·00
" Ohio	36·00

MEAN ANNUAL TEMPERATURE IN 1849.

	Fahrenheit. d. m.
Cambridge, Mass	47·48
New Haven, Conn	49·00
Rochester, N. Y	46·68
Penn Yan, N. Y	45·46
Newark, N. J	50·89
Delaware Co., Pa	52·37
Near Louisville, Ky	53·8
Columbia, S. C	61·62
Jackson, Miss	65·64
Fort Madison, Iowa	49·62

Sale of Worcester Railroad Bonds.

Three Hundred Thousands dollars of the Bonds of this Corporation were sold at auction this morning, by Whitwell, Seaver & Co. The prices paid were as follows,

$10,000	at 6	p. cent	advance.
2,000	do 4	do	do
5,000	do 3¾	do	do
10,000	do 3½	do	do
10,000	do 3	do	do
18,000	do 2¾	do	do
245,000	do 2½	do	do
$300,000			

The largest purchaser was Mr. Samuel Henshaw, who closed the balance of $ 35,000 at 2½. The sale was well attended, and the bidding quite spirited. The Bonds are payable in 1860, with 6 p. cent interest, semi-annually payable, at the Hamilton Bank; Coupons attached. They are convertible into stock at the option of the holders.—*Boston Shipping List.*

Interior Iowa.

We have just conversed with Mr. Wm. Morson, State Agent for the selection of school lands. He has returned from a trip to the interior, and gives a glowing description of the advantages, both mineral and agricultural, of the region of country bordering the upper Des Moines river. Coal and gypsum abound in that region, and will form, at no distant day, two of the great staples of export and home consumption.

Were the facilities of transportation such now as they one day will be, the extensive prairies which lie unbroken by the hand of industry, would soon teem with lowing herds and wave with golden grain. A railroad to Fort Des Moines will realize all the best anticipations which have been indulged in the usefulness and efficiency of such a project. *Dubuque Express.*

The Climate of California.

The following results of a Meteorological Journal kept in California from July 26, 1849, to April 1, 1850, will be found exceedingly interesting:

San Francisco, Lat. 37° 49′, Long. 112° 8′ W.		
Highest range from July 28 to Aug. 2	54	70
Lowest " "	51	66
Average " "	52½	68
" on river San Joaquin, Aug. 2, 3 and 4	62	91
" at Stockton, from Aug. 5 to 13	58½	92
" from do. to Stanislaus, Aug. 13 to 20	60	96
Highest range at Sullivan's diggings from Aug. 20th to Oct. 2d	70	103
Lowest " "	44	72
Average " "	61½	92½
Highest range in Nov. at San Francisco.	59	71
Lowest " "	45	58
Average " "	53½	68½
Highest in December "	56	70
Lowest " "	30	52
Average " "	43	59½
Highest in January "	53	73
Lowest " "	30	49
Average " "	45½	60½
Highest in February "	52	76
Lowest " "	36	52
Average " "	49	62
Highest in March "	60	85
Lowest " "	34	49
Average " "	44 1-6	61 [1-6

First rain of the season August 16th, few drops, perhaps 8 or 10 to the square foot; about the same again on the 23d of the same month. First rain of any note Oct. 9th.

No. of rainy days in October	3
" November	14
" December	15
" January	20
" February	6
" March	19
Whole No.	77

Greatest number in succession 12, commencing 12th, and continuing every day until the 23d. Probable quantity of rain up to December, 12 inches.

	Inches.
Quantity fell in December by rain guage	11·35
" January "	6·09
" February "	1·31
" March "	4·03
Whole amount	34·78

or 2 feet 10 78-100.

Commerce of Baltimore.

We copy from a late Congressional document the following statistics relative to the commerce of that city:

The total value of goods shipped from Baltimore during the year ending June 13th, 1849, was $8,000,600; of which $7,786,695 were of articles of domestic produce, and $213,965 of foreign articles. The exports were in 634 vessels, with a tonnage of 149,928 tons, and employing 6,335 men in their navigation. Of the above, 491 vessels were American, and 145 under the flags of 18 different foreign nations.

The foreign imports into Baltimore during the same time were valued at $4,976,731, of which, $4,613,219 were in American vessels, and $363,512 in foreign vessels. The foreign imports were received in 484 vessels, with a tonnage amounting to 110,068 tons, and manned by 4,581 men.

The total number of vessels owned and registered at Baltimore on the 30th June, 1849, embraced an aggregate tonnage of 134,025·35 tons, of which 53,624·75 tons were engaged as licensed coasters, and 11,464·28 tons employed in steam navigation.

During the same year there were built at Baltimore 63 vessels, viz: 9 ships and barks, 8 brigs, 41

schooners and 5 steamers, with an aggregate tonnage of 12,199·66 tons.

The Effect of Shot and Shell on the Hull of Iron Vessels.

The first experiment for testing the effect of shot and shell on the sides of iron vessels took place on Wednesday at Portsmouth, England, under the superintendence of Capt. Chads, on board the Excellent. A large butt, being a copy of a section of the Simoom's main deck, had been made in the dockyard, representing the two sides of an iron vessel, each side of the strength and consistency of one of the large iron steamships. This was but erected on the mud, at a distance of 460 yards from the Excellent, and the practice took place at high water from guns of several calibre, and various charges of powder, both shot and shell were fired.—The results show pretty conclusively that iron vessels are not fit to cope with vessels of wood, neither are they fit to go against batteries, for it is now tolerably certain that the fatal effects of every shot received on board would be quadrupled by the tendency of the ironwork to splinter, fly off, and destroy everything in the vicinity of the concussion more especially when the ball is also likely to split, and break to pieces likewise.

The Projected Railroad to Halifax.

The following paragraph in relation to the project to connect Halifax with the Atlantic cities of the United States, by means of a railroad through New Brunswick to Bangor, in Maine, etc., we copy from a St. John, N. B., paper.

Mr. Morton, an engineer of high respectability and attainments, from the United States, recently arrived in this Province with the view of ascertaining what steps can be taken for the purpose of extending a line of railway through this Province, from the State of Maine, in order to connect the traffic from Europe with America through this Province and Nova Scotia. Mr. Morton visited Halifax, and the Nova Scotian thus speaks of him and his project:

"Mr. Morton appears to be a very gentlemanly and well informed man. He states that there are four wealthy and influential corporations interested in the success of the Maine lines. That each of these have a direct interest in the extension of a line to Halifax, either by a powerful steamer from Portland to Windsor, with rail to Halifax, or by steamer to Digby, with rail to the Gut, or round the Bay by Cumberland, to connect at our frontier with the lines which may be formed by the governments and companies of New Brunswick and Maine.—Mr. Morton is indifferent which route is taken, provided it be the shortest, best or most profitable. In the construction of one or the other, he is quite confident that we shall have the cordial sympathy, if not the active support of the associations already formed among our neighbors."

Ohio.

Mad River and Lake Erie Railroad.—Judge Lane, President of the Mad River and Lake Erie railway company, lately submitted to the directors a brief annual report of the affairs of the company for the past year. The following is a statement of the receipts and expenses for the year ending May 31st:

Receipts for passengers	$361,155	41
" freight	163,044	20
" mail	6,358	44
" incidental	2,618	44
	361,155	49
Running expenses and repairs	168,879	69
Balance	192,275	77
Interest account	47,657	04
	144,618	73
Dividend No. 2	121,057	25
Surplus earnings	23,568	48
Balance trans account, 1st June, 1849.	10,215	49
Total surplus	$32,782	97

The company expended $165,500 the past year on the branch from Springfield to Dayton. This branch is to be open for travel during the approaching autumn.

Vermont.

Rutland Railroad.—At a recent meeting of the Stockholders of this road, the following Board of Directors were chosen:—

Timothy Follett, Burlington, President; Samuel P. Strong, Vergennes; Charles Linsly, Middlebury; John A. Conant, Brandon; Chester Granger, Pittsford: George T. Hodges, Rutland; Nathaniel Fullerton, Chester; Wm. Henry, Bellows Falls, Paris Fletcher, Bridport; John Howe, Nathan Rice; and B. T. Reed, Boston; John Bradley, Burlington. The last in place of Mr. Elliott of Keene, who declined a re-election.

The meeting resolved—

1. To pay the interest due stockholders in new stock at par.
2. To apply to the Legislature for permission to issue bonds to an amount not exceeding $1,500,000.
3. To request the Legislature to amend the charter as to allow the company to diminish the number of directors at their discretion.

A very large number of stockholders were present, and they adjourned in perfect confidence in the success of the enterprize and the management of the directors.

Illinois.

A large convention of citizens of Southern Illinois met at Mount Vernon on the 6th inst. to consider the Railroad question. The meeting was well attended, and strong resolutions were passed favorable to the following projects:

1. The Central Railroad of Illinois, running from the mouth of the Ohio to Chicago and Galena.
2. The Ohio and Mississippi Railroad, running from Vincennes on the Wabash, to Illinois town on the Mississippi.
3. The Mississippi and Atlantic Railroad, running from Terre Haute on the Wabash to Illinois town.

Cleveland and Buffalo Railroad.

The surveys of the Ohio section of this work are now completed. The directors held a meeting at Painsville recently, and definitely and permanently located the whole road, from Cleveland to the State line. They are now engaged in securing the right of way, which will be accomplished in a few weeks. From Doan's Corners the road will pass down Kingsbury's Run, and across Walworth's Flats to the intersection of the Cleveland, Columbus and Cincinnati road.

We understand that the work will be advertised and put under contract within the next sixty days. The company having the charter from Erie to the west line of Pennsylvania, have united with the Ohio company; and will push forward the work together—making one entire road from Cleveland to Erie.

West of Buffalo to the Pennsylvania State line the whole road has been put under contract, and the contractors are now at work. It is intended to have the entire road from Buffalo to Erie completed by the 1st of July, 1851.

Illinois.

A large Convention of Delegates from the counties interested in the Illinois Northern Cross railroad met at Decatur, Ill., on the 7th ult. The attendance of delegates was large and the best feeling was evinced. It was the opinion among the delegates that one quarter of the sum needed to finish the road from Springfield to the Indiana line could be obtained along the route. Among other resolutions adopted were the following:

Resolved, That the interest of the State and especially of the inhabitants of the Central counties, requires the completion of the Northern Cross railroad from Quincy on the line located to Danville, and thence to Covington or Lafayette, and also of the construction of the Central railroad from the mouth of the Ohio river to the southern termination of the Illinois and Michigan canal, with branches thence to Chicago and Galena.

Resolved, That the directors of the Sangamon and Morgan railroad company, be requested to increase the capital stock of said company for the purpose of continuing the Northern Cross railroad from Springfield to Covington, and to open books in the counties on the line of the road to receive subscriptions to the said stock.

A committee was appointed to consult with the directors of the Sangamon and Morgan road upon this subject.

New Hampshire.

Concord Railroad.—From the ninth annual report of this road, we learn that the whole amount of its receipts are $296,908 48

Expenses	148,934 19
Balance	147,974 29
Two dividends paid	133,680 00
	14,824 29
Paid upper roads	9,291 42
Carried to deterioration account	5,032 87
Add surplus of last year	28,814 17
Making in whole	$33,847 04

Ohio.

Railroad from Sandusky to Cleveland.—The True Delta says: "The citizens of Sandusky had another railroad meeting on the 26th. Energy and determination were manifested in the speeches, and liberality in the subscriptions. Milan pledged $30,000, Ohio City $150,000, Elyria $75,000, Birmingham $16,000, Vermillion 10,000, in case each was made a point.

Mr. Camp stated that if Sandusky City would subscribe the $50,000 allotted in Elyria, that nothing would prevent the road from being put under contract from Sandusky to Cleveland within six weeks."

Lead Mine in Maine.

A lead mine has been recently discovered in Prospect, Me. The Belfast Signal says that the vein of ore makes its appearance in a ledge beneath low water mark, on the shore of Penobscot river, and from thence runs under ground, following the direction of the ledge. An analysis of several samples, differing from each other in value, has been made by Dr. Jackson, of Boston, which gives as a mean, seventy-five per cent. of lead and thirteen of silver.

Locomotives in Virginia.

On Thursday afternoon says the Richmond Enquirer, we were much gratified by a visit to the very extensive and busy machine shop of Messrs. Talbot & Brother, on Cary street. There we saw the large and magnificent locomotive "Roanoke," just completed for the Danville Railroad by these enterprising and intelligent machinists. The locomotive was blocked up so as to show the movements of the machinery, all but the progressive, under the influence of steam—and though unfamiliar with such things we could not but admire the solidity and elegance of the workmanship, and the ease, rapidity and smoothness with which the driving wheels revolved. We predict for the "Roanoke" great speed, when on the road—which we hope will be about the middle of July. The splendid covered Railroad Bridge over James River is rapidly progressing, and forms a very bold and striking feature as it crosses the green islands in the river. It will be completed in a few days, we hope, and a fair experiment given to the "Roanoke," which must confer new credit on Messrs. Talbot and Brother.

AMERICAN RAILROAD JOURNAL.

Saturday, July 6, 1850.

Plan for Shortening the Time of Passage between New York and London.

We present to our readers at full length a document now before the Legislature of Maine, which will naturally arrest the attention of the railroad interest of the whole country. It has been denominated by its friends a plan for shortening the time of passage between New York and London.

We feel some delicacy in speaking of this matter from the relation in which we stand toward the gentleman whose name appears at the head of the committee who signed the petition, and from whose pen the document is understood to have emanated. All who are familiar with Maine railroads, or the public men of that State, will recognise the names of those occupying the most prominent positions, embracing the Mayor of Portland, the Collector of the Port, beside those holding the most responsible offices in the railroads of Maine. It may be proper in this connection to remark that the author of this memorial to the Legislature of Maine was the projector and leading promoter of the Atlantic and St. Lawrence railroad.

We perceive that the Legislature of Maine have ordered the printing of a number ot copies, and we confidently trust that they will readily cause the necessary information to be obtained. The project has been developed in a manner to arrest attention.

We are told that the substance of this memorial was presented in a speech by Mr. Poor at Bangor during the last winter.

Railroad Securities.

By far the greater part of the railroads now in progress are in the South and West, parts of the country that have but little accumulated capital. Most of the companies are therefore obliged to resort to the commercial towns for loans of money to purchase iron, equipment, etc. The preparation of the road bed for the iron often exhausts the immediate means of those building them. For all beyond that, they must borrow upon such time as will suffice to convert the means they possess into money.

A great number of these companies are now coming into market for money. A majority of the securities which they bring are the obligations of towns and counties interested in these works. As far as safety and certainty of payment is concerned, no securities can be better. They represent a mere fraction of the ability of those issuing them. The payment of them may be readily enforced by law, and the aggregate property of a whole community may be seized in discharge of the debt. The bodies asking for these loans have high standing and credit, and are every day becoming more and more able to pay.

All this is as a general rule admitted. No capitalist doubts but that the bonds of the richest counties of Ohio and Indiana for the amount of $100,000 are a perfectly safe investment, as safe as New York or Ohio State stocks; yet these stocks command a very large premium for permanent investment, while those of counties having the same time to run and bearing the same rate of interest are at a large discount. This difference in the price of these securities is in part owing to the shortness of time they have been in the market. They have attracted so little attention that the public have not become impressed with their true value. Another cause is to be found in the interest that the brokers by whom they are mostly negotiated have in keeping them at a low figure. If a broker can buy at 85 cents and sell at 100, the amount of *one* of his commissions is readily seen. Where too, a broker buys at a low figure, upon an order, his principal may wish to sell again as the value of the security rises in the market. This gives him a chance for a second commission, which he would lose if he gave in the outset all the security were worth, saving his first commission.

Here we are satisfied lies the great obstacle with which railroad companies have to contend, in obtaining the *full* value of their securities. The money broker and the company have exactly opposite interests: the former to buy as low, and the latter to get as much as possible. The broker is interested to keep the seller away from the capitalist, who buys for investment, for the purpose of pocketing the commission as the go-between. The systematic concert of this large, active and influential class, renders it very difficult to negotiate, without their aid, securities not already well known in the market; and their gains are measured just in proportion as they can blind the eyes or embarrass the position of the persons having securities to offer.—Such persons cannot be too cautious how they show their hands to this class of men. They ingeniously worm out of the seller every fact in his case that can make for or against him, for the purpose of using whatever is favorable for their own advantage if they get the job, or against the seller if they lose it. As an invariable rule the less a security is hawked about Wall street the better. An exposure there for a few days will taint the best of them. After all, only one person can have the business of selling them, and every person consulted, and who has failed to get the job feels that he ought to have had it, and gives the scheme a kick, so that his successful rival shall carry off as few honors as possible. Every one who knows anything of Wall street, knows how easily it is for any man or body of men to throw discredit and distrust upon the best of security.

In money matters it is the same as with purchases of produce. The merchant buys at the smallest possible price, and sells at the highest he can get. He stands between the producer and consumer, and his profits are measured by the gains he can make between the two.

If a company wish to negotiate securities, the proper way for them to go to work is, to first make up their minds what they propose to do, and having done this, to select the right kind of man to aid them, a man who shall bring the seller and purchaser for investment together, and who shall be entitled to a proper commission for his services.—It is time that these negotiations should be effected upon some system which shall do justice to the important improvements going on in all parts of country, and which shall receive the aid, good will, and encouragement of all.

Wheat Crop of the West.

The wheat crop is the great staple of the west. It is the only crop that gives the western farmer *money.* Its failure is almost equivalent to a year lost in everything that relates to public improvements. It is the great exchangable value which the western merchant brings to N. York to buy his goods with, and railroad companies to buy iron, etc. The crop of last year was as a general rule, a failure. Its loss has affected the business of the whole country, and accounts for the tardy manner with which western payments have been made, and for the great falling off of spring trade in our cities. The present crop bids fair to be most abundant, and we may soon expect to witness its influence in the impulse given to business of every kind, and particularly to the construction of railroads, in which the whole west is so largely engaged, and which keep almost exact pace with the abundance of her harvests.

Remington's Bridge.

We have at last seen this work which has made so much noise throughout the country. A model bridge is now being exhibited in this city. It consists of four parallel stringers or chords of white pine, firmly attached to abutments, and covered with thin pieces of wood, fastened to the stringers by screws. The chords or stringers are three in. in diameter where they are attached to the abutments, and taper down to one inch in the centre.—The model is 160 feet long and four wide. The depression of the centre is about two feet lower than the abutments. It has a light, graceful appearance, and will no doubt sustain a considerable weight. We learn that for *practical* bridges Mr. Remington makes use of truss work, the top of which coincides with the line of the top of the abutments, thus making his simply a truss bridge, and no one can look at the model without seeing that the truss would be a great advantage to the bridge.

There is no new idea or principle in this bridge. The model is simply a wooden suspension bridge. This form of bridge may involve the application of a new principle with us, though rude wooden suspension bridges have been used in South America from time immemorial. If Mr. Remington uses the truss we cannot see anything new in his bridge either in principle or application. The strength of most kinds of wooden bridges in use depends upon the tensile strain of the wood, and the best are those which develope this the most perfectly.

Mr. Remington's bridge without the truss is a very pretty toy, and we cannot look upon it in any other light. If we must have suspension bridges, iron is much better material than wood. It requires no argument to prove this. It is stronger in proportion to its weight, safer, more durable, and will prove more economical in the end.

Virginia Central Railroad.

We are happy to learn that Thomas C. Ruggles, Esq., formerly of this city, has been appointed Chief Engineer of the above road. Mr. Ruggles is a skillful engineer, enthusiastically attached to his profession, in which he has had much experience, and carries with him to Virginia just those qualities needed to excite the inhabitants of that State to vigorous action, and to direct their efforts. We are glad that Mr. Ruggles' merits have been properly appreciated, and we have no doubt but that the people of Virginia will derive substantial advantage from his services.

Railroad Iron.

We learn that Gen. A. M. Robinson, President, and S. W. Roberts, Chief Engineer of the Ohio and Pennsylvania railroad, are now in this city for the purpose of purchasing iron for that company, and whatever may be thought of the general question of a protective tariff, the action of this company shows pretty conclusively that we cannot manufacture iron here at present prices. Pittsburgh is the centre of the iron manufacture of this country, and we know that the above company were very desirous of purchasing the domestic article; but as they could save about $75,000 in the purchase of 11,000 tons by buying English iron, the directors felt it their duty to do so, however much they may.

have been desirous of encouraging their own rolling mills.

Illinois.

Galena and Chicago Railroad.—The connection of the Lakes and the Mississippi by railway, is one of the great desideratums to the internal communication of the country. The difficulty and expense of transportation and travel over the ordinary roads between these great water courses, forces the produce of the upper Mississippi down that river;—nearly all of which would reach the Atlantic by way of the Lakes, it there were a railroad to connect the two. Two lines are now projected to open this communication, the Galena and Chicago and the Milwaukee and Mississippi, both having similar objects, but both so widely separated as in no way to be rivals of each other.

The Galena and Chicago railroad is now in operation from Chicago to Elgin, a distance of 42½ miles, and is now doing a very prosperous business. In addition to its proving a very profitable investment of capital, it is effecting great good by showing how cheaply roads can be constructed in the West, and how profitable they are likely to become. A few such illustrations as this road is giving will have an effect to inspire confidence of capitalists in them, and secure to their construction the aid so much needed in the outset, but which can soon be repaid after the works have gone into operation.

The whole cost of the first division of the road is $405,382 36. In addition to this, $35,713 20 have been expended for other items, chiefly for wood land.

The following table shows the time when the several sections of the road were opened for travel, and the receipts up the 1st of May last.

Month.	Total receipts.	Distance in operation.
June, 1849	$913 35	10 miles.
July	1,602 52	15
August	2,743 13	18
September	4,267 43	20
October	7,104 93	22
November	5,899 48	28
December	4,887 79	33
January, 1850	5,195 48	37
February	5,029 47	42½
March	4,893 75	42½
April	5,794 63	42½
	$48,331 96	

The expenses for operating the road for the same time, amount to $18,519 82, leaving the net earnings $29,812 14.

The company have on hand at different points on the road, 3602¼ cords of wood, 923 cords of which has been sawed and prepared for use. The cost is $7,666.

The whole number of passengers conveyed upon the road, from the 1st of June, 1849, to the 1st of May, 1850, was 37,524.

From the operating of the road thus far, and from the indications already presented of its future business, the estimated receipts for the present year are:

From passengers	$40,000
From freight	72,000
From mails	3,000
	$115,000
The expenses of operating the road will be about	35,000
Which will leave for net earnings.	$80,000

The company propose to put the second division of the road, from Elgin to Belvidere, a distance of 39 miles, under contract immediately, so that this portion of it may be completed in January, 1850.

The construction of the whole road is a matter of much importance, from the fact that Chicago is soon to be connected with New York and all the leading Atlantic cities by railroads. None of these lines will be complete till they reach the Mississippi. They will soon reach Chicago, and the people of that city can, if they will, complete their work so as to have it opened simultaneously with these lines. A succession of a few years of good crops will give the people of northern Illinois abundant means to caray out this work. The following is a list of director for the current year:

Wm. B. Ogden, Walter L. Newberry, Charles Walker, James H. Collins, Wm. H. Brown, John B. Turner, Thomas Dyer, Benjamin W. Raymond, George Smith, of Chicago; Charles S. Hemstead, Thomas Dummond, of Galena; Thomas D. Robertson, of Rockford; Dexter A. Knowlton of Freeport.

William B. Ogden, President.
J. B. Turner, Acting Director.
J. Van Nortwick, Chief Engineer.
F. Howe, Secretary and Treasurer.

Massachusetts.

Below we give a table of the population of 32 towns in Massachusetts, with their gain since '40. They embrace about one-third of the population of he State since 1840. The returns from the remaining towns will carry the whole population up to nearly 1,000,000. This number will give an average of one hundred and forty inhabitants to the square mile:

Towns.	Population. 1850.	Population. 1840.	Per cent. increase.
Lawrence	8,341	new town.	infinitum.
Holyoke	3,713	"	"
Chelsea (without North Chelsea)	6,151	1,640	275
Somerville	3,111	888	250
Milford	4,409	1,795	146
Worcester	15,864	7,060	125
Roxbury	18,310	8,310	120
Brookline	2,353	1,123	110
Fitchburgh	5,009	2,570	95
Cambridge	14,624	8,127	80
Fall River	11,170	6,451	73
Newton	5,009	2,902	73
Dorchester	8,578	4,458	70
Adams	6,050	3,639	66
Boston	138,788	93,979	65
Charleston (without Somerville)	15,881	9,984	59
Lowell	32,620	20,981	55
Danvers	7,949	5,140	55
Quincy	4,958	3,309	50
Greenfield	2,567	1,174	46
Pittsfield	5,900	4,060	45
Northampton	5,305	3,572	44
Randolph	4,625	3,232	43
Weymouth	5,166	3,630	42
Dedham	4,379	3,157	39
Taunton	10,133	7,524	35
Newburyport	9,534	7,124	34
New Bedford	16,441	12,585	31
Salem	18,846	15,162	24
Gloucester	7,416	6,394	16
Marblehead	6,070	5,539	10
Plymouth	5,717	5,180	8
	413,987	261,369	

The above results are undoubtedly the very best illustration of the influence of railroads the world affords. There can be no doubt that two-thirds of the above increase is due to their construction.—Massachusetts has now about 1,050 miles of railroad, with an area of 7,250 square miles, or one mile of railroad to every seven square miles. The great increase of many of the most flourishing of these towns has not been owing to favorable position, or to any natural resources, they in fact being destitute of all advantages in these respects. Railroads have made them agreeable residences, and have placed them within easy access of the great commercial towns. These artificial advantages have attracted to them a large population, engaged in manufacturing, which would otherwise have remained in the seaport towns, or who would have occupied themselves in other pursuits.

The only States that will show a greater absolute increase for the last ten years will be New York, Pennsylvania, Ohio, Indiana, Illinois, Wisconsin, and perhaps Missouri. Relatively Massachusetts increases much faster than any of the older States, and, in proportion to her area, much faster than any State in the Union. When we take extent of territory into consideration, the west can show nothing which equals the rapid growth of that State. The growth is still the more remarkable when we consider her poverty in all natural advantages. She has the poorest soil of any State in the Union, without coal or any other minerals of importance. Her progress is due almost entirely to the character and enterprise of her people, and to the manner in which she has made the most of whatever she possesses.

In everything that concerns the history of our country, the character or progress of our people, we are accustomed to contrast Massachusetts with Virginia. These two states early took the lead in all the great questions that have occupied the attention of our people, and they are now looked upon as the representatives of opposite systems and ideas which now divide the whole country.—Now, if we apply the ordinary test by which we measure the excellence of any particular policy or system, to wit, the progress made in population and wealth, how stands the account with these two States? In what is Virginia inferior to Massachusetts in natural advantages? In nothing. Virginia on the other hand is the superior in almost every particular. She has nearly ten times the area. She possesses a most fertile soil, an abundance of iron and coal, the great elements of wealth. No State in the Union has greater commercial advantages. If possessed of population and wealth in proportion to her natural advantages, Virginia at the present moment would be the richest and most populous State in the Union. As it is, Massachusetts is rapidly gaining upon her, and in 1850 will have nearly as many inhabitants. Why is this? There must be some cause for it. Will some Virginian answer?

Virginia has now commenced in earnest the construction of railroads, and her present movement it is believed will form an era in her history. But she has had railroads in operation for many years. Why do we not witness the same results following their construction there that we do in Massachusetts? Her leading towns, with the exception perhaps of Richmond, have hardly advanced an inch for many years. The population of the whole eastern portion of the State has remained stationary, if it has not actually receded, since 1830. As far as commerce is concerned, she might as well be without the magnificent harbors and rivers which penetrate her coast. Her forests are valueless, except to supply the ship builder of Maine and Massachusetts. Her water power drives no machinery. Her iron, with some few exceptions, still remains in the earth. Her agricultural exports are rapidly falling off, and are not one third what they were in 1770. Why does this State present such an anomalous picture compared with a great majority of her sister States? Will some one answer the question, what is the matter with Virginia?

New York and Erie Road.

The receipts of this road for the month of June, 1850, were as follows:

From passengers and mail	$58,227 35
From freight	62,320 02
	120,324 42
Receipts in June, 1849	60,320 02
Increase	60,004 40
The receipts from 1st January to June 30, 1850, were	756,282 00
The receipts from 1st January to June 30, 1849, were	321,429 00
Increase	435,853 00

It will be seen by the above statement that the receipts for the last six months are within $44,000 of the entire receipts of last year, when they reached $810,000. Should the above rate of increase continue during the remainder of the year, and the extension to Hornellsville in September next prove as productive as anticipated, the receipts of 1850 will reach $1,800,000 instead of $1,600,000 as originally estimated. These receipts would leave $900,000 net income, from which to pay interest on debt and dividend.

Harlem Railroad.

The earnings of this road for the month of June show an excess of $10,000 over June of last year. Nearly all this increase is from the business of the road proper, and not from the New Haven. Negotiations are going on to extend the Harlem from Dover to Chatham, where it will unite with the Albany road. The successful completion of such an arrangement would add very largely to the value of the stock.

Maine.

Atlantic and St. Lawrence Railroad.—The receipts of this road for the month of May, were:

For passengers	$6,945 70
For freight	4,525 45
	$11,471 10

Patent Self-clinching Railroad Spikes.

These spikes have been in use upon various roads for several years, and have met with universal approval by Engineers. They drive in the manner shown, turning themselves, and are therefore not liable to work loose. They will prove of great value to secure the chair.

We are also manufacturing railroad spikes, hook and flat head; wrought chairs, clamps, etc., of superior quality, and are prepared to contract for any pattern or weight upon favorable terms.

SMITH & TYSON,
25 South Charles st., Baltimore Md.

NORRIS' LOCOMOTIVE WORKS,
SCHENECTADY, N. Y.

THESE Works are in full operation in Manufacturing to order, Locomotive Steam Engines & Tenders, of the best principle and construction of material, using wrought iron heavy frames with pedestals welded thereto, and all parts of the engine made of the best wrought iron, except cylinders, pumps and boxes—obtaining greater durability, and carrying less weight over the road, than engines constructed of cast iron.

Wrought Iron Tires made any required size, and Tire Bars bent and welded with dispatch.

Chilled Wheels for Cars, Tucks and Tenders, made from the toughest iron.

Driving and Tender and Car Wheels fitted to Axles with Brass Boxes and Springs, and Railroad Machinery generally. Manufactured and for sale by

April 11, 1849. E. S. NORRIS.

Ray's Patent India Rubber Car Springs.

Savannah, Ga., May 22, 1850.

FOWLER M. RAY, Esq.,

Dear Sir: I have no hesitation in saying, after having used on our road your springs and Fuller's, that I consider yours decidedly the best in every particular, and in this opinion I am sustained by all our officers. Fuller's spring has a tendency to split, and also to chafe or abrade by the constant friction on the cast iron plates or disc: and in my opinion is not near so elastic as yours.

Your springs, which have been in use on our road for 12 or 15 months past, and in constant use under both passenger and freight cars, are to all appearances as elastic, sound and good, as when first put in use.

We are now building eigty-five new cars, of which for fifty-sets the springs have been ordered of you.

GEORGE A. ADAMS,
Master Carpenter,
Central Railroad and Banking Co. of Georgia.

Connecticut River Railroad Office,
Northampton, May 4, 1850.

E. CRANE, Esq.,

Dear Sir: It is now about two years since I first tried the experiment of using a set of Ray's India-rubber Springs upon one of our merchandise cars, and although the car has been in constant service since that time, I do not on examination find the slightest difference either in the thickness or elasticity of the material.

The same result has followed wherever we have applied them, either for wheel or draw springs on Engines, Tenders or Cars. At present we use no other; either in replacing old springs or building new cars—and I am perfectly satisfied that for economy, durability, safety, and ease of motion, that Ray's India-rubber is the best article for Springs which has been presented to the public.

Yours respectfully, J. HUNT,
Supt. Connecticut River Railroad.

EDWARD CRANE, Esq.,

Dear Sir: Having applied to cars of the Boston and Worcester Railroad Corporation, Ray's Vulcanised Rubber Springs (where they have been in use for some two years last past), I have had occasion to observe their operation, and am free to say in answer to your inquiries, that they retain their *elasticity* perfectly during all changes of atmospheric temperature: and are in my opinion a most valuable acquisition to Railroad Cars—are not liable to derangement, as is the case with steel springs; while at the same time it costs less to apply them. Respectfully yours,

D. N. PICKERING,
Supt. Motive Power, Bost. & Wor. Railroad.
Boston, April 15th, 1850.

NORTHERN RAILROAD,
NEW YORK.

CARS run between Rouses Point and Chateaugay daily, Sundays excepted, as follows:

Leave Rouses Point at . . 3¾ A.M.
Leave Chateaugay at . . 6¼ P.M.

On the arrival of the cars at Chataugay, stages are in readiness to take the passengers to Ogdensburg, where they arrive the same day.

Passengers leave Ogdensburg in the morning by stage, and take the evening train from Chataugay to Rouses Point, where they go immediately on board the steamboats which run north and south on Lake Champlain.

Passengers leaving New York in the evening by the way of Whitehall, will arrive at Rouses Point the next night, and the next morning pass directly from the boat to the cars, and arrive at Ogdensburg the same day. CHARLES L. SCHLATTER, Supt.

Ibbotson, Brothers & Co's
CELEBRATED CAST STEEL
AND
Best Cast Steel Royal Improved Files, well known as better adapted for Engineers' and Machinists' purposes than any now in use in the United States.

Every description of Square, Octagon, Flat and Round Cast Steel, Sheet, Shovel and Railway Spring Steel, etc., and Steel to order for any purposes—manufactured at their works in Sheffield—and universally known by the old stamp "Globe."

HENRY J. IBBOTSON, Agent.,
218 Pearl st., New York.

NOTICE.

☞ A young man of experience in Surveying wishes a situation on a Railroad as an Assistant. Please apply at this office.

Election of an Engineer.

At a Meeting of the Board of Directors of the Virginia Central Railroad Co. at Charlotteville on the 4th day of June, 1850,

Resolved, That the election of a Chief Engineer in the place of Wm. A. Kuper, whose resignation has been accepted, is postponed to take place in Richmond on Tuesday the 18th of June instant.

A copy from the minutes,
JOHN GARRET, Secretary.

Lovegrove's Patent Cast Iron Water and Gas Pipes.

THE Subscriber, the Inventor and Patentee of the Centrifugal mode of giving form to metallic substances while in a molten state, is preparing to make Cast Iron Water and Gas Pipes, of any dimensions, at prices much lower than they can be made in the old manner, and the pipes warranted to stand a pressure of three hundred pounds to the square inch, and to be soft enough to drill. Steam Engines and all kinds of machinery. Cast Iron Doors and Frames, and Mill Castings of every description, made to order.

THOMAS LOVEGROVE,
Machinist and Founder,
West Falls Avenue, below Pratt st., Baltimore.

American Railway Guide,
AND POCKET COMPANION FOR THE
UNITED STATES;

CONTAINING Correct Tables, shownig the time for starting of trains from all stations, distances, fares, etc., on all the Railway lines in the U. States; also many of the principal Steamboat and Stage routes—accompanied by a complete RAILWAY MAP. Price, single copies 12½ cts., or $1 per annum. Published on the first of every month, corrected from returns furnished by the Railway Superintendents throughout the Union.

This book has been compiled somewhat on the plan of Bradshaw's Guide, with such improvements in size, form and arrangement as have seemed desirable; and the publisher confidently hopes it will not be found liable to the objections of incompleteness and incorrectness, which have been made, and justly too, against various other similar works heretofore issued.

The subscriber having had the management of the NEW YORK PATHFINDER almost from its commencement, has enjoyed superior facilities in obtaining information relating to the thoroughfares of travel, and is therefore well qualified to prosecute with success the arduous undertaking of furnishing a complete and correct national guide book.

STRINGER & TOWNSEND, General Agents, 222 Broadway: and sold also by Booksellers and Periodical Dealers generally throughout the country; also on all the Railways and Steamboats.

CURRAN DINSMORE, Publisher.
N. Y. Pathfinder Office,
138 Fulton St., New York City.

India-rubber for Railroad Cos.

RUBBER SPRINGS—*Bearing and Buffer—Fuller's Patent—Hose* from 1 to 12 inches diameter. Suction Hose. *Steam Packing*—from 1-16 to 2 in. thick. *Rubber and Gutta Percha Bands.* These articles are all warranted to give satisfaction, made under Tyer & Helm's patent, issued January, 1849.—No lead used in the composition. Will stand much higher heat than that called "Goodyear's," and is in all respects better than any in use. Proprietors of railroads do not be overcharged by pretenders.

HORACE H. DAY,
Warehouse 23 Courtlandt street.
New York, May 21, 1849.

To Railroad Companies.

FOR SALE—A Second-hand Locomotive Engine and Tender, of about 10 tons weight, in good order, and *warranted to perform well.* Any company wanting a cheap engine for a passenger or light burden train, will rarely meet with an opportunity so favorable as the present. The engine and tender are in perfect running order, and will be tested to the satisfaction of any one wishing to purchase. Price $1,500.

Address J. B. MOORHEAD,
Frazer P.O., Chester county, Pa.

P.S.—The Engine can be seen by calling on H. Osmond & Co., Car-builders, Broad st., Philadelphia.
September 6, 1849.

Spikes, Spikes, Spikes.

ANY person wishing a simple and effective Spike Machine, or a number of them, may be supplied by addressing J. W. FLACK,
March 6, 1850. Troy, N. Y.

Great American Engineering

AND MECHANICAL WORK, just published in medium folio, 75 cts. to Subscribers, One Dollar to non-subscribers.

Part VI of "Specimens of the Stone, Iron and Timber Bridges, Viaducts, Tunnels, &c. &c. of the United States Railroads." By George Duggan, Architect and Civil Engineer.

The present part contains beautifully executed plans, elevations and sections of the Timber Bridge (three spans of 150, and one span of 160 feet) across the Delaware at Saw Mill Rift, on the line of the N. York & Erie R. R., with the specifications, estimates, bills of timber, iron, etc.

N.B.—With the present (6th) part, are given specimen Plates of the APPENDIX, (or "THEORETICAL AND PRACTICAL TREATISE ON BRIDGE BUILDING, etc. etc.") consisting of plans, elevations, sections and details of a cast iron oblique arch, 130 feet span, across Fairfield st. Manchester, on the line of the Manchester and Birmingham Railroad. Also a specimen sheet of the letter press of the APPENDIX, consisting of an introductory article on the *Application of Iron to Railroad Structures.*

"It is a work that was a great desideratum, and must prove of great benefit to the engineering profession generally, and especially to the tyro in practical engineering and mechanical knowledge; in truth it strikes us, that it would require years of labor and patient toil on the part of a young engineer to prepare the drawings, and collect the information that will be embodied in this work, and can now be secured for the trifling sum of $9"—[Scientific Amer. March 16, 1850.

In connection with this subject (Iron Railroad Structures) we take occasion to call attention again to Mr. Duggan's valuable and expensive publication, exhibiting drawings, with full descriptions of the various stone, iron and wooden bridges, viaducts, tunnels, culverts, etc., of all the Railroads in the United States. Mr. Duggan is an accomplished Architect and Civil Engineer, who came from Ireland to this country to exercise his profession; but finding Railroad construction here, in many respects, different from that he had been accustomed to in Europe, he applied himself to the study of our system; and the fruits of his researches and investigations embodied in this work, are well calculated to meet the exigencies of engineers, and to assist draughtsmen, bridge builders, mechanics and students.—[N. Y. Journal of Commerce, Feb. 14, 1850.

Published by GEORGE DUGGAN,
300 Broadway, New York.

To whom all communications should be addressed, and subscriptions forwarded.

RAILROAD CAR AND COACH TRIMMINGS.

Doremus & Nixon,

IMPORTERS AND FURNISHERS

HAVE FOR SALE

Plain Garnet Plush.	Fig. Garnet Plush (Butterfly pat.
" Crimson "	" Crimson " (Elegant.
" Scarlet "	" " " (Gen. Taylor.

BROCATELLES.

Crimson Silk Brocatelles.	Gold and Maroon do.
Gold and Blue "	" Brown "
Silk and Wool "	of every color.

MOQUETTS,

Of elegant designs and colors.

GERMAN CLOTH FOR CAR LININGS.

The most beautiful goods ever shown in this country, and the subscribers are the sole agents for the sale of them.

Oil cloths Enamelled with Gold. } These goods can be
" " Silver. } furnished in any
Do. Silver ground velvet printed. } dimensions req'd.

CURLED HAIR

Of every description and quality.

JNO. W. A. STRICKLAND, Agent.
New York, 1850. 1y16

Stickney & Beatty,

DEALERS IN IRON AND IRON MANUFACTURERS.

AGENTS for the Balt. City Rolling Mill, from which establishment they are prepared to furnish Ellicott's round, square, and flat bar iron, puddled and charcoal boiler plates and billet iron—also agents for the sale of the Laurel and Maryland (Balt.) charcoal forge pig irons, Balt. hard iron for chilling wheels, anti-Eatam nails, Catoctin foundry iron, boiler blooms from the Caledonian works, Wm. Jessop & Son's cast steel, Coleman's blister steel and nail rods, hoop, band, sheet, oval and common English iron.

Nos. 18 and 20 South Charles st., Baltimore.

Fire Brick.

THE Subscribers have constantly on hand Rafford's Stourbridge, Oak Farms Stourbridge, Lister, Wortley, Red and White Welsh Fire Bricks, common and fancy shapes. Also,

ROOFING SLATES,

from the best Welch quarries, and of all sizes. Also,

COAL,

of all kinds—Liverpool Orrell and Cannel, Scotch, New Castle, Pictou, Sidney, Cumberland, Virginia, and all kinds of Anthracite coals. Also,

Pig Iron, Salt, etc., etc., for sale at the lowest market price. Apply to

SAMUEL THOMPSON & NEPHEW,
275 Pearl and 43 Gold Sts., New York.
November, 23, 1849.

FAIRBANKS' RAILROAD SCALES.—THE subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accuracy of weight and dispatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon railroads, either in the United States or Great Britain;—and the managers refer with confidence to the following in the United States.

Eastern Railroad.	Boston & Maine Railroad.
Providence Railroad.	Providence and Wor. Road.
Western Railroad.	Concord Railroad.
Old Colony Railroad.	Fitchburg Railroad.
Schenectady Railroad.	Syracuse and Utica Road.
Balt. and Ohio Railroad.	Baltimore and Susq. Road.
Phila. & Reading Road.	Schuylkill Valley Road.
Central (Ga.) Railroad.	Macon and Western Road.

New York and Erie Railroad.

And other principal Railroads in the Western, Middle and Southern States.

E. & T. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents, { FAIRBANKS & Co., 89 Water St., N. York. / A. B. NORRIS, 196 Market St. Philadelphia.
April 22, 1849. 1y*17

STABILITY—SECURITY—PERPETUITY.

Mutual Life Insurance Co. of New York.

No. 35 WALL STREET.

A MILLION OF DOLLARS

Securely invested in Bonds and Mortgages on real estate in this city and Brooklyn, and stocks of the State and City of New York and United States Government.

The company declared a dividend of profits of fifty-two per cent. on all existing policies on the 31st of January, 1848.

All the Profits are Divided Among the Insured.

Persons may effect insurance on their own lives and the lives of others.

A married woman can insure the life of her husband, the benefits of which are secured by law for the exclusive use of herself or children.

Clergymen and all others dependent upon salaries or their daily earnings are specially invited to avail themselves of a resource whereby their surviving families may be secured from the evils of penury.

Pamphlets explanatory of the principles of Mutual Life Insurance, and illustrating its advantages, with forms of application, may be obtained at the office of the company, 35 Wall street, or of any of its agents.

TRUSTEES.

Jos. B. Collins,	Abraham Bininger,
Wm. J. Hyslop.	Alfred Edwards,
R. H. McCurdy,	Wm. Betts,
Fred. S. Winston,	Joseph Blunt,
C. W. Faber,	Isaac G. Pearson,
John P. Yelverton,	Henry Wells,
Theo. Sedgwick,	Wm. Moore,
Stacy B. Collins,	George R. Clark,
John H. Swift,	Jona. Miller,
John Wadsworth,	David A. Comstock,
S. M. Cornell,	Robert Schuyler,
Gouv. M. Wilkins,	James Chambers,
John V. L. Pruyn,	Joseph Tuckerman,
Jas. S. Wadsworth,	Moses H. Grinnell,
Charles Ely,	Wm. J. Banker,
John C. Cruger,	John M. Stuart,
Charles King,	Francis S. Lathrop,
Alfred Pell,	Nathaniel Hayden.

JOSEPH. B. COLLINS, President.
ISAAC ABBATT, Secretary. 3m9

NOTICE TO

Superintendents of Railroads.

TYLER'S PATENT SAFETY SWITCH.—The undersigned would respectfully call their attention to his Patent Safety Switch, which from long trial and late severe tests has proved itself perfectly reliable for the purpose for which it was intended. It is designed to prevent the train from running off when the switch is set to the wrong track by design or accident. The single rail or gate switch is established as the best and safest switch for the ordinary purpose of shifting cars from one track to another, but it is liable to the serious evil of having one track open or broken when connected with the other. My improvement entirely removes this evil, and while it accomplishes this important office, leaves the switch in its original simplicity and perfection of a plain unbroken rail, connecting one track with the other ready for use.

The following decision of the Commissioner of Patents is respectfully submitted to Railroad Engineers, Superintendents, and all others interested in the subject.

P. B. TYLER.

(COPY.)

UNITED STATES PATENT OFFICE,
Washington City, D.C., April 28th, 1846.

SIR: You are hereby informed that in the case of the interference between your claims and those of Gustavus A. Nicolls, for improvements in safety switches—upon which a hearing was appointed to take place on the 3d Monday in March, 1846, the question of priority of invention has been decided in your favor. Inclosed is a copy of the decision. The testimony in the case is now open to the inspection of those concerned.

Yours respectfully, EDMUND BURKE,
Commissioner of Patents.

To Philos B. Tyler.

Any further information may be obtained by addressing P. B. TYLER, Springfield, Mass., or JOHN PENDLETON, Agent, 149 Hudson St., New York.

Coal.

CUMBERLAND SEMI-BITUMINOUS COAL superior quality for Locomotives, for sale by

H. B. TEBBETTS,
No. 40 Wall St., New York.
May 12, 1849. 1m19

PHILADELPHIA CAR MANUFACTORY,

CORNER SCHUYLKILL 2D AND HAMILTON STS.,
SPRING GARDEN, PHILADELPHIA CO., PA.

Kimball & Gorton,

Having recently constructed the above works, are prepared to construct at short notice all kinds of

RAILROAD CARS, Viz:

Passenger Cars of all classes—Open and Covered Freight and Express Cars—Coal Cars—Hand Cars & Trucks of all descriptions.

They are also prepared to furnish Chilled Wheels of any pattern. Car Wheels & Axles fitted and furnished. Snow Ploughs and Tenders made to order. Steel and other Springs always on hand.

All orders will be filled at short notice, and upon as good terms as at any other establishment in the country.

Omnibuses from the Exchange run within one square of the manufactory every 10 minutes during the day.

Philadelphia, June 16, 1849. 1y25

C. W. Bentley & Co,

IRON Founders, Portable Steam Engine Builders and Boiler Makers, Corner Front and Plowman Sts., near Baltimore St. Bridge,

BALTIMORE, MARYLAND.

Their Engines are simple in their construction, compact and durable; they require no brick work in setting them, and occupyidg but a small space (a six horse power engine and boiler, standing on a cast iron plate of three by six feet.)

They also manufacture Major W. P. Williamson's new oscillating Engine; a superior article, combining cheapness and simplicity (one of which may be seen in operation at their shop.) Both of these engines are adapted to any purpose, where power is required, and may be made of any capacity; and for economy in use of fuel are unsurpassed.

All kinds of machinery made to order. Steam Generators, Force Pumps, Wrought Iron Pipes and Fillings for Steam, Water, Gas, etc., constantly on hand,

Baltimore, June 6, 1849.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.

Jan. 20, 1849.

ENGINEERS.

Atkinson, T. C.,
Alexandria and Orange Railroad, Alexandria, Va.

Bancks, C. W.,
Civil Engineer, Vicksburg, Miss.

Berrien, John M.,
Michigan Central Railroad, Marshall, Mich.

Buckland, George,
Troy and Greenbush Railroad.

Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

Cozzens, W, H.,
Engineer and Surveyor, St. Louis, Mo.

Alfred W. Craven,
Chief Engineer Croton Aqueduct, New York.

Davidson, M. O.,
Eckhart Mines, Alleghany Co., Maryland.

Fisk, Charles B.,
Cumberland and Ohio Canal, Washington, D. C.

Felton, S. M.,
Fitchburgh Railroad, Boston, Mass.

Floyd-Jones, Charles,
South Oyster Bay, L. I.

Gzowski, Mr.,
St. Lawrence & Atlantic Railroad, Montreal, Canada.

Gilbert, Wm. B.,
Rutland and Burlington Railroad, Rutland, Vt.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

S. W. Hill,
Mining Engineer and Surveyor, Eagle River, Lake Superior.

Holcomb, F. P.
Southwestern Railroad, Macon, Ga.

Johnson, Edwin F.
New York and Boston Railroad, Middletown Ct.

Latrobe, B. H.,
Baltimore and Ohio Railroad, Baltimore, Md.

Miller, J. F.,
Worcester and Nashua Railroad, Worcester, Mass.

Morris, Elwood,
Schuylkill Navigation, Schuylkill Haven, Pa.

Morton, A. C.,
Atlantic and St. Lawrence Railroad, Portland, Me.

McRae, John,
South Carolina Railroad, Charleston, S. C.

Nott, Samuel,
Lawrence and Manchester Railroad, Boston,

Prichard, M. B.,
East Tennessee and Georgia R. R., Cleveland, Tenn.

Roebling, John A.,
Trenton, N. J.

W. Milnor Roberts,
Bellefontaine and Indiana Railroad, Marion, Ohio.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

Sanford, C. O.,
South Side Railroad, Virginia.

Schlatter, Charles L.,
Northern Railroad (Ogdensburg), Malone, N. Y.

Sours, Peter,
Rahway, New Jersey.

Stark, George.,
Bost., Con. and Mont. R. R., Meredith Bridge, N. H.

Steele, J. Dutton,
Pottstown, Pa.

Trimble, Isaac R.,
Philad., Wil. & Baltimore Railroad, Wilmington, Del.

Tinkham, A. W.,
United States Fort, Bucksport, Me.

Thomson, J. Edgar.,
Pennsylvania (Central) Railroad, Philadelphia.

Troost, Lewis,
Alabama and Tennessee Railroad, Selma, Ala.

Whipple, S.,
Civil Engineer and Bridge Builder, Utica, N. Y.

Williams, E. P.,
Auburn and Schenectady Railroad, Auburn, N. Y.

Williams, Charles H.,
Milwaukie, Wisconsin.

HOTELS.

GUY'S
United States Hotel,
(Opposite Pratt street Railroad Depot,)
BALTIMORE.
JOHN GUY. *WILLIAM GUY.*

American Hotel,
Pratt street, opposite the Railroad Depot,
BALTIMORE.
HENRY M. SMITH.....Proprietor.
Late of the Exchange & St. Charles Hotels, Pittsburg.

Washington Hotel,
BY JOHN GILMAN,
$1 *Per Day.*
No. 206 Pratt street, (near the Depot,)
BALTIMORE.

Fountain Hotel,
LIGHT STREET, BALTIMORE,
P. THURSTON.....Proprietor.

Barnum's City Hotel,
MONUMENT SQUARE, BALTIMORE.
This Extensive Establishment, erected expressly for a Hotel, with every regard to comfort and convenience, is situated in the centre and most fashionable part of the city, and but a few minutes' walk from the Railroad Depots and Steamboat Landings.
The House has lately undergone a thorough repair, embracing many valuable improvements, and will accommodate 250 Guests. BARNUM & CO.

JONES' HOTEL,
NO. 152 CHESTNUT STREET,
PHILADELPHIA.
BRIDGES & WEST, ... Proprietors.

DUNLAP'S HOTEL,
On the European Plan,
NO. 135 FULTON STREET,
Between Broadway and Nassau St.,
NEW YORK.

BUSINESS CARDS.

J. T. Hodge
Will attend to the examination of mining tracts near Lake Superior, and prepare Reports and Maps.
Address, during the Summer,
Ontanagon Postoffice, Lake Superior.

Cumberland Steam Coal,
FROM THE
FROSTBURG MINES, MD.
H. A. TUCKER,
Agent of Frostburg Coal Co.
No. 50 Wall Street, New York.

Eaton, Gilbert & Co.,
Railroad Car, Coach and Omnibus Builders,
TROY, N. Y.

Nathan Caswell,
METAL BROKER, 69 WALL ST., N.Y.
For the Purchase and Sale of Railroad Iron (new and old,) Boiler Plates, Pig and Bar Iron, Lead, Tin, Copper, Spelter, etc. Refers to
Messrs. Boorman, Johnston, & Co., New York.
" Grinnell, Minturn & Co., "
" Barston, Pope & Co., "
" Earps & Brink, Philadelphia.
" E. Pratt & Brother, Baltimore.
John Barstow, Esq., Providence.
Lewis Bullard, Esq., Boston.
February 9, 1850. 6m*

United States Railroad Guide and Steamboat Journal.
CONTAINING OFFICIAL TIME ADVERTISEMENTS, Tables of Stations, Distances, Fares, Time, etc., with much miscellaneous matter for the travelling public. Price 12 cents a copy. Yearly subscription $1. Published at 43 Ann street, New York.

J. & Riley Carr,
Manufacturers of Cast, Shear, German and Blister
STEEL,
Of all Descriptions, Warranted Good.
BAILEY-LANE WORKS, SHEFFIELD.

R. S. STENTON, *Agent,*
NO. 20 CLIFF ST., NEW YORK.

STEEL AND FILES.
R. S. Stenton,
20 CLIFF STREET, NEW YORK,
AGENT FOR
J. & Riley Carr's
BAILEY-LANE WORKS, SHEFFIELD,
Manufacturers of Cast, Shear, German and Blister
STEEL
Of all descriptions. *Warranted* Good
FILES.
Manufacturers of Machinists' Warranted Best Cast Steel *Files*, expressly for woring upon Iron and Steel, made very heavy for recutting.
☞ A full Stock of *Steel* and *Files* at all times on hand. 6m4

Walter R, Johnson,
CIVIL AND MINING ENGINEER AND Attorney for Patents. Office and Laboratory, F St., opposite the Patent office, Washington, D. C.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

Manning & Lee,
GENERAL COMMISSION MERCHANTS,
NO. 51 EXCHANGE PLACE,
BALTIMORE.
Agents for Avalon Railroad Iron and Nail Works. Maryland Mining Company's Cumberland Coal 'CED —'Potomac' and other good brands of Pig Iron.

Cop Waste.
CLEAN COP WASTE, suitable for cleaning Railroad, Steamboat and Stationary Engines, constantly an hand and for sale by
KENNEDY & GELSTON,
5½ Pine St., New York.
October 27, 1849, 3m

Ranstead, Dearborn & Co.,
MANUFACTURERS OF
LOCOMOTIVE CRANKS AND CAR AXLES,
ALSO
WROUGHT IRON SHAFTING,
And All Kinds of Hammered Shapes.
Forge at Commercial Point, Dorchester,
Office 25 Foster's Wharf, opposite No. 211 Broad St.
BOSTON.

Henry J. Ibbotson,
IMPORTER of Sheffield and Birmingham Goods. Also, Agent for the Manufacture of Telegraph Wire. 218 PEARL ST., NEW YORK.

Cumberland, (Md.,) Coals for Steaming, etc.
ORDERS RECEIVED FOR AND FILLED by J. COWLES, 27 Wall St., N. Y.

Railroad Car Manufacturer's Furnishing Store.

F. S. & S. A. MARTINE,

IMPORTERS AND MANUFACTURERS OF

RAIL ROAD CAR & CARRIAGE LININGS,

PLUSHES, CURTAIN MATERIALS, ETC.,
112 WILLIAM ST., NEAR JOHN.

3-4 and 6-4 Damasks, Union and Worsted; Moreens, Rattinetts, Cloths, Silk and Cotton Velvets, English Buntings

To Engineers and Surveyors.

E. BROWN AND SON Mathematical inst. makers No. 27 Fulton Slip, New York, make and keep for sale, Theodolites, Levelling inst., Levelling rods, Surveyors Compasses, and Chains, Cases of Mathematical drawing insts. various qualities, together with a general assortment of Ivory Scales and small insts. generally used by Engineers.

Samuel Kimber & Co., COMMISSION MERCHANTS

WILLOW ST. WHARVES, PHILADELPHIA.

AGENTS for the sale of Charcoal and Anthracite Pig Iron, Hammered Railroad Car and Locomotive Axles, Force Pumps of the most approved construction for Railroad Water Stations and Hydraulic Rams, etc., etc.

July, 27, 1849.

James Herron, *Civil Engineer*,

OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,

PATENTEE OF THE

HERRON RAILWAY TRACK.

Models of this Track, on the most improved plans, may be seen at the Engineer's office of the New York and Erie Railroad.

To Railroad Companies.

—WROUGHT IRON WHEELS—
SAFETY AND ECONOMY.

NORRIS' LOCOMOTIVE WORKS,
SCHENECTADY, NEW YORK,

Are Manufacturing Wrought Iron Driving, Truck, Tender, and Car Wheels—made from the best American Iron. Address E. S. NORRIS.

May 16, 1849.

Machinery Warehouse.

S. C. HILLS, No. 43 Fulton street, New York, has constantly for sale Steam Engines, Boilers, Lathes, Chucks, Drills, Planers, Force and Suction Pumps; Tenoning, Morticing and Boring Machines, Shingle Machines, Bolt and Nut Machines, Belting, Oil, Iron and Lead Pipe; Rubber, Percha and Leather Hose, &c., &c.

S. C. H.'s arrangements with several machine shops are such that he can supply, at very short notice, large quantities of machinery.

November 23, 1849.

George O. Robertson, BROKER IN SCOTCH AND AMERICAN PIG IRON;

Bar Iron, Lead, Spelter, Tin, Copper, etc.,
No. 4 Liberty Place, MAIDEN LANE,
(Near Broadway,)
NEW YORK

Manufacture of Patent Wire ROPE AND CABLES,

For Inclined Planes, Suspension Bridges, Standing Rigging, Mines, Cranes, Derrick, Tillers, &c., by
JOHN A. ROEBLING, Civil Engineer,
TRENTON, N. J.

Samuel D. Willmott,

MERCHANT, AND MANUFACTURER OF
CAST STEEL WARRANTED SAWS,
—AND FILES—

IMPORTER OF THE
GENUINE WICKESRLY GRINDSTONES
NO. 8 LIBERTY STREET,
NEW YORK.

Doremus & Harris,

ANALYTICAL & CONSULTING CHEMISTS,
179 BROADWAY, NEW YORK.
DrSCHOOL OF CHEMISTRY.

IRON.

Railroad Iron.

3,000 TONS C. L. MAKE 63½ lbs. per yard, now landing and to arrive.

Also contracts made for future delivery of above superior make English Iron.

300 Tons Banks Best Iron, Round, Square and Flat.
200 " English Bar " " " "
10 " 9-16 Square Iron for Railroad Spikes.

For sale in lots to suit purchasers by
DAVID W. WETMORE.

New York, March 26, 1850. 3m

SPRING STEEL FOR LOCOMOTIVES, TENDERS AND CARS.—The subscriber is engaged in manufacturing spring steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address J. F. WINSLOW, *Agent*,
Albany Iron and Nail Works.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract to deliver Rails of superior quality, and of any size or pattern, to any ports of discharge in the United States.

COLLINS, VOSE & CO.,
74 South St.

New York, June 1, 1850.

Railroad Iron.

1,500 Tons weighing 58 lbs. per lineal yard.
500 " " 57 " "
500 " " 56 " "
500 " " 60 & 61 lbs, "

Also 2½x½ flat rails. All the above being of approved patterns. For sale by
DAVIS, BROOKS, & CO.,
68 Broad street.

N.B.—Rails imported on commission, or at a fixed price.

Iron.

Pig Iron, Anthracite and Charcoal; Boiler and Flue Iron, Spring and Blistered Steel, Nail Rods, Best Refined Bar Iron, Railroad Iron, Car Axles, Nails, Stove Castings, Cast Iron Pipes of all sizes, Railway Chairs of approved patterns' for sale by
COLEMAN, KELTON & CAMBELL,
109 N. Water St., Philadelphia.

IRONDALE PIG METAL, MANUFACTURED and for sale by the Bloomsburg Railroad Iron Co.
LINDLEY FISHER, Treasurer.
75 N. Water St., Philadelphia.

Railroad Iron.

2000 Tons, weighing 58 pounds per lineal yard, of the most approved pattern of T rails, in store and to arrive, for sale by
COLLINS, VOSE & CO.,
74 South St.

New York, June 1, 1850.

Railroad Iron.

1675 Tons, weighing about 61 lbs. per yard, 90 tons, weighing about 52 lbs. per yard, and 825 tons, weighing about 53½ lbs. per yard, of the latest and most approved patterns of T rail, for sale by
BOORMAN, JOHNSTON & CO.,
119 Greenwich street.

New York, Feb. 25, 1850.

N.B.—B., J. & Co are also prepared to take contracts for English rails, delivered in any of the Atlantic ports of the Unitad States.

Railroad Iron.

THE UNDERSIGNED, HAVING made arrangements abroad, are prepared to contract for the delivery of Foreign rails, of approved brands upon the most favorable terms.

They will also make contracts for American rails, made at their Trenton works, from Andover Iron, in whole or in part, as may be agreed upon.

They are prepared to furnish Telegraph, Spring and Market Wire; Braziers and Wire Rods; Rivets and Merchant Bars to order, all made exclusively from Andover Iron. The attention of parties who require iron of the *very best* quality for special purposes, is respectfully invited. COOPER & HEWITT,
17 Burling Slip, New York.

February 15, 1850.

Glendon Refined Iron.

Round Iron, Band Iron, Hoop Iron,
Square " Flat " Scroll "
Axles, Locomotive Tyres,

Manufactured at the Glendon Mills, East Boston, for sale by GEORGE GARDNER & CO.,
5 Liberty Square, Boston, Mass.

Sept. 15, 1849. 3m37

PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES.—The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.

JOHN F. WINSLOW, *Agent*.
Albany Iron and Nail Works, Troy, N. Y.

The above Spikes may be had at factory prices, o Erastus Corning & Co Albany; Merritt & Co., New York; E. Pratt & Bro. Ler, Baltimore, Md

LAP—WELDED WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM ONE AND A QUARTER TO SEVEN INCHES IN DIAMETER.

THE ONLY Tubes of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER & SON, Patentees,
28 Platt street, New York.

Railroad Iron.

THE UNDERSIGNED ARE PREPARED TO contract for the delivery of English Railroad Iron of favorite brands, during the Spring. They also receive orders for the importation of Pig, Bar, Sheet, etc. Iron. THOMAS B. SANDS & CO.,
22 South William street,

February 3, 1849. New York.

Iron Store.

THE Subscribers, having the selling agency of the following named Rolling Mills, viz: Norristown, Rough and Ready, Kensington, Triadelphia, Pottsgrove and Thorndale, can supply Railroad Companies, Merchants and others, at the wholesale mill prices for bars of all sizes, sheets cut to order as large as 58 in. diameter; Railroad Iron, domestic and foreign; Locomotive tire welded to given size; Chairs and Spikes; Iron for shafting, locomotive and general machinery purposes; Cast, Shear, Blister and Spring Steel; Boiler rivets; Copper; Pig iron, etc., etc.

MORRIS, JONES & CO.,
Iron Merchants,
Schuylkill 7th and Market Sts., Philadelphia.

August 16, 1849. 1y33

Railroad Iron.

THE MOUNT SAVAGE IRON WORKS, Alleghany county, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention. J. F. WINSLOW, *President*
Troy, N.Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N.Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.

November 6, 1848.

Railroad Iron.

THE SUBSCRIBERS ARE PREPARED TO take orders for Railroad Iron to be made at their Phœnix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehannah river; which two establishments are now turning out upwards of 1800 tons of finished rails per month.

Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.

REEVES, BUCK & CO.
45 North Water St. Philadelphia.

March 15, 1849.

Monument Foundry.

A. & W. DENMEAD & SON,
Corner of North and Monument Sts.,—Baltimore,
HAVING THEIR
IRON FOUNDRY AND MACHINE SHOP
In complete operation, are prepared to execute faithfully and promptly, orders for
Locomotive or Stationary Steam Engines,
Woolen, Cotton, Flour, Rice, Sugar Grist, or Saw Mills,
Slide, Hand or Chuck Lathes,
Machinery for cutting all kinds of Gearing.
Hydraulic, Tobacco and other Presses,
Car and Locomotive patent Ring Wheels, warranted,
Bridge and Mill Castings of every description,
Gas and Water Pipes of all sizes, warranted,
Railroad Wheels with best faggotted axle, furnished and fitted up for use, complete

☞ Being provided with Heavy Lathes for Boring and Turning Screws, Cylinders, etc., we can furnish them of any pitch, length or pattern.

☞ Old Machinery Renewed or Repaired—and Estimates for Work in any part of the United States furnished at short notice.

June 8, 1849.

Iron Wire.

REFINED IRON WIRE OF ALL KINDS, Card, Reed, Cotton-flyer, Annealed, Broom, Buckle, and Spring Wire. Also all kinds of Round, Flat or Oval Wire, best adapted to various machine purposes, annealed and tempered, straightened and cut any length, manufactured and sold by

ICHABOD WASHBURN.

Worcester, Mass., May 25, 1849.

American and Foreign Iron.

FOR SALE,

300	Tons	A 1, Iron Dale Foundry Iron.
100	"	1, " " "
100	"	2, " " "
100	"	" Forge "
400	"	Wilkesbarre " "
100	"	"Roaring Run" Foundry Iron.
300	"	Fort " "
50	"	Catoctin " "
250	"	Chikiswalungo " "
50	"	"Columbia" "chilling" iron, a very superior article for car wheels.
75	"	"Columbia" refined boiler blooms.
30	"	1 x ¼ Slit iron.
50	"	Best Penna. boiler iron.
50	"	"Puddled" "
50	"	Bagnall & Sons refined bar iron.
50	"	Common bar iron.

Locomotive and other boiler iron furnished to order.

GOODHUE & CO.,
New York. 64 South street

American Pig, Bloom and Boiler Iron.

HENRY THOMPSON & SON,
No 57 South Gay St., Baltimore, Md.,

Offer for sale, *Hot Blast* Charcoal *Pig Iron* made at the *Catoctin* (Maryland), and *Taylor* (Virginia), *Furnaces*; *Cold Blast* Charcoal Pig Iron from the *Cloverdale* and *Catawba*, Va., Furnaces, suitable for *Wheels* or *Machinery* requiring *extra* strength; also *Boiler* and *Flue Iron* from the mills of Edge & Hilles in Delaware, and *best quality Boiler Blooms* made from *Cold Blast Pig Iron* at the *Shenandoah Works*, Va. The productions of the above establishments can always be had at the lowest market prices for approved paper.

American Pig Iron of other brands, and *Rolled* and *Hammered Bar Iron* furnished at lowest prices. Agents for *Watson's Perth Amboy Fire Bricks*, and Rich & Cos. New York Salamander Iron Chests.

Baltimore, June 14, 1849. 6 mos

Wheel, Forge and Foundry Iron.

LOCUST GROVE Wheel Iron of great strength and superior chilling property.

Balt. Charcoal Forge Iron, from Patuxent, Curtis Creek and Gunpowder furnaces.

Elkridge Foundry Iron, of superior strength and softness. Anthracite and Charcoal Iron from Pennsylvania and Virginia. Gas and Water Pipes, Lamp Posts from Elkridge furnace.

LEMMON & GLENN,
6m9 62 Buchanan's Wharf, Baltimore.

Iron.

THE SUBSCRIBERS having resumed the agency of the New-Jersey Iron Company, are prepared to execute orders for the different kinds and sizes of Iron usually made at the works of the company, and offer for sale on advantageous terms.—

150 tons No. 1 Boonton Foundry Pig Iron.
100 " No. 2 do. do. do.
300 " Nos. 2 & 3 Forge do. do.
100 " No. 2 Glendon do. do.
140 " Nos. 2 & 3 Lehigh Crane do do.
100 " No. 1 Pompton Charcoal do.
100 " New-Jersey Blooms
50 " New-Jersey Faggoting Iron, for shafts

Best Bars, ½ to 4 inch by ¼ to 1 inch thick.
Do do Rounds and Squares, ½ to 3 inch.
Rounds and Squares, 3-16 to 1 inch.
Half Rounds, ½ to 1 in. Ovals & Half Ovals ½ to 1½ in.
Bands, 1½ to 4 inch. Hoops, ½ to 2 inch.
Trunk Hoops, ½ to 1½ in. Horse Shoe & Nut Iron.
Nail Plates. Railroad Spikes.

DUDLEY B. FULLER & Co., 139 Greenwich-st. and 85 Broad-st.

WILLIAM JESSOP & SONS' CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving from their manufactory,
PARK WORKS, SHEFFIELD,
Double Refined Cast Steel—square, flat and octagon.
Best warranted Cast Steel—square, flat and octagon.
Best double and single Shear Steel—warranted.
Machinery Steel—round.
Best and 2d gy. Sheet Steel—for saws and other purposes.
German Steel—flat and square, "W. I. & S." "Eagle" and "Goat" stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms by WM. JESSOP & SONS,
91 John street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce street, Philadelphia.
Alex'r Fullerton & Co., 119 Milk street, Boston.
Stickney & Beatty, South Charles street, Baltimore.
May 6, 1848.

JOHNSON, CAMMELL & Co's Celebrated Cast Steel,

AND

ENGINEERING AND MACHINE FILES,

which for quality and adaptation to mechanical uses, have been proved superior to any in the United States. Every description of square, octagon, flat and round cast steel, sheet, shovel and railway spring steel, best double and single shear steel, German steel, flat and square, goat stamps, etc. Saw and file steel, and steel to order for any purposes, manufactured at their Cyclops Steel Works Sheffield.

JOHNSON, CAMMELL & CO.,
100 William St., New York.
November 23 1849.

Railroad Iron.

OF ANY PATTERN AND WEIGHT,
Of a Favorite Brand,
And deliverable in Bond, or Duty paid, at any Port of the U. S., contracted for on favorable terms, by

CHARLES ILLIUS,
20 Beaver St., New York.

Pig and other Iron also contracted for. Sole Agent for "*Baxter's Machine and Burning Oil*"—particularly adapted for "*Railroads*" and other Machinery—Preferred to Sperm by the many now using it, and 25 *per cent. cheaper.*

CUT NAILS OF BEST QUALITY, BAR IRON (including Flat Rails) manufactured and for sale by FISHER, MORGAN & CO.,
75 N. Water St., Philadelphia.

Ogden & Martin's ROSENDALE CEMENT.

WE are prepared to enter into arrangements for supplying our Cement for public works or other purposes. We warrant the cement equal in every respect to any manufactured in this country. It attains a great degree of hardness, setts immediately under water, and is a superior article for masonry coming in contact with water, or requiring great strength.

For sale in tight barrels, well papered, at their office by OGDEN & MARTIN, 104 Wall st.
February 16, 1850. 1y*

The above cement is used in most of the fortifications building by government.

To Steam Engine Builders.

THE Undersigned offer for sale, *at less than half its cost*, the following *new machinery*, calculated for an engine of 62 inches cylinder and 10 feet stroke, viz.

2 Wrought Iron Cranks, 60 inches from centre to centre.
1 Do. do. Connecting Rod Strap.
2 Do. do. Crank Pins.
1 Eccentric Strap.
1 Diagonal Link with Brasses.
1 Cast Iron Lever Beam (forked).

The above machinery was made at the West Point Foundry for the U. S. Steamer Missouri, without regard to expense, is all finished complete for putting together, and has never been used. Drawings of the cranks can be seen on application to

HENRY THOMPSON & SON,
No. 57 South Gay St., Baltimore, Md.
Sept. 12, 1849.

8,000 Tons Railroad Iron.

THE OHIO AND PENNSYLVANIA RAILROAD CO. wish to contract for eight thousand tons of Railroad Iron, for the eastern division of their road, extending westward from Pittsburgh. Three thousand tons to be delivered on the Ohio river at Pittsburgh and Beaver, before the close of canal navigation in the present year, 1850; and the remainder in the spring of next year. The rails are to be of the H pattern, in lengths of 20 feet, and are to weigh 60 lbs. per lineal yard. They are to be subject to the inspection of Solomon W. Roberts, Chief Engineer.—For further particulars address the President of the Company at Pittsburgh.

By order of the Board of Directors.
WM. ROBINSON, Jr., President.

S. S. Keyser & Co., IRON WAREHOUSE,

Corner of South and Pratt Streets,
BALTIMORE, MD.

Selling Agents for the Rough and Ready Bar Iron and Elk Boiler and Flue Iron Rolling Mills, Sarah and Taylor Furnaces, and Wrightsville Hollow Ware Foundry, and Dealers in Bar and Sheet Iron, and Cast, Sheer, German, Blister, Spring and Electerised Steel, etc., etc.

Smith & Tyson,

GENERAL COMMISSION MERCHANTS,
No. 25 South Charles St., Baltimore, Md.

AGENTS for the Celebrated Columbia Pig Iron, suitable for Car Wheels and Chilled Rolls.

Columbia refined Charcoal Blooms; Refined Charcoal Juniatta Billet Iron for Wire; Refined Iron for Bridging, of great strength; Cut Nails, Spikes, and Brads; Railroad Spikes and Wrought Chairs. 22tf

To Railroad Companies and Contractors.

FOR SALE.—Two Locomotive Engines and Tenders, at present in use on the Beaver Meadow Railroad, being too light for their coal trains, but well calculated for either gravel or light passenger trains.

They weigh, in running order, about 8 tons each—having one pair of driving wheels 4 feet diameter, 4 truck wheels 30 inches diameter, with cylinders 10 in. diameter, and 18 inches stroke of piston. Tenders on 4 wheels. Address JAMES ROWLAND,
Prest. Beaver Meadow Railroad & Coal Co.,
Philadelphia.
or, L. CHAMBERLAIN, Sec'y,
at Beaver Meadow, Pa.
May 19, 1849. 20tf

Railroad Instruments.

THEODOLITES, TRANSIT COMPASSES, and Levels, with Fraunhoffers Munich Glasses, Surveyor's Compasses, Chains, Drawing Instruments, Barometers, etc., all of the best quality and workmanship, for sale at unusually low prices, by

E. & G. W. BLUNT,
No. 179 Water St., cor. Burling Slip.
New York, May 19, 1849.

Rosendale Cement.

THE NEWARK AND ROSENDALE LIME AND CEMENT CO. are now manufacturing at their works in NEWARK, N. J., and Ulster county, N.Y., a very superior article of *Hydraulic Cement*—also Lime Calcine Plaster, etc. Contractors and dealers will find it to their advantage to call or make application before purchasing elsewhere. All communications addressed to the subscriber, at Newark, N.J., will be punctually attended to.

1y*15 HENRY WILDE, Secretary.

Patent India Rubber Steam Packing.

THIS article, made by the subscriber, who alone is authorised to make it, is warranted to stand as high a degree of heat *as any that has been or can be made by any person*—and is the article which has made the reputation of India Rubber Steam Packing and the demand therefor. A large assortment of all thicknesses requisite for any description of engines, steam pipes, valves, etc., constantly on hand and for sale by the manufacturer and patentee, who will give every information regarding its properties, mode of use, etc. at the warehouse. JOHN GREACHEN, JR.,
98 Broadway, opposite Trinity Church.
New York, October, 1849.

Passenger Car Linings.

THE Advertiser continues to make to order the Enamelled Car Linings which have been so highly approved the last three years, and are now exclusively used by all the Northern Railroads. No pains are spared to get out new styles, and adapt them to the tastes of every consumer.

Orders addressed to CHARLES STODDER, No. 75 Kilby street, Boston, will have prompt attention.
March 23, 1850. 2m

CAUTION.

RAILROAD COMPANIES and others are hereby cautioned against using or vending our improvement for easing the lateral motion as applied on Railroad Cars. Letters Patent having been granted to us in 1841, any party or parties so making or using said improvement without license from us will be proceeded against according to law.
DAVENPORT & BRIDGES.

P. H. Griffin,

Corner of Steuben and James Sts. Albany, N.Y.,

CONTINUES to manufaeture copper flues for locomotive boilers, brewers' coppers, stills, tanner heaters, etc. Copper work in general, at the shortest notice. He has constantly on hand brass cocks, brass valves, copper pumps of every variety.

Orders promptly attended to. 1y14

FOWLER M. RAY'S Patent India-rubber Railroad CAR SPRING.

New York and Erie Railroad Shops.
Piermont, March 26, 1850.

This will certify that from practical experience in the use of Fowler M. Ray's India rubber Car Springs, I believe them to be far superior to any others now in use.

I have never known them to be affected by any change of temperature, as other Rubber Springs have been affected on this road.

I am at the present time repairing a Passenger Car that Mr. Ray and myself mounted with his springs about two years and eight months since.

The springs are at the present time as perfect, to all appearances, as when first applied to the car.

Respectfully yours,
HORACE B. GARDNER,
Foreman of the Car Shops.

—

Supt. Office N.Y. & H. R.R.,
New York, March 8, 1850.

This is to certify that we have used the Rubber Springs manufactured by Mr. F. M. Ray for the past twenty months, "both for Passenger and Freight Car Springs and Bumpers, and of different sizes," and have in every case given entire satisfaction, and I consider them the best spring now in use
M. SLOAT, Supt.

—

Harlem R.R. Depot,
New York, March 7, 1850.

This is to certify that we have used Mr. F. M. Ray's India-rubber Springs for over eighteen months, and find them to be easy and durable, and recommend them to railroad companies as being superior to anything we have tried. J. M. SMART,
Foreman at 42d St. Depot.

Office New Jersey Railroad Co.,
Jersey City, March 8, 1850.

FOWLER M. RAY, Esq.,

Dear Sir: In answer to your enquiries respecting the operation of the Vulcanised Rubber Springs, purchased by our company from you some two years since, I reply that they are superior to any spring in use, (that I have either seen or heard of).

The improved form of your spring, consisting of a solid piece of vulcanised rubber with bands on the outside, is far superior to your first form, consisting of disks of rubber with metallic plates interposed.

The last named form was tried, if you recollect, at a much earlier period; and then was replaced by your last form.

I have no hesitation in saying that your springs have given entire satisfaction, and most cheerfully recommend them to railroad companies throughout the country for the following reasons:

1st. The cost is 30 per cent. less.

2d. Saving of weight on each car of 8 wheels from 700 to 800 lbs.

3d. Less care and attention is required, as they are not liable to get out of repair.

4th. A great saving is secured in the wear and tear of the cars and rails from their great elasticity.

5th. The freedom from noise.

6th. There is greater safety in case of accident, as they cannot be broken.

7th. The comfort of passengers is enhanced sufficiently to pay the expense, waiving all the other reasons that I have given.

Should this fail to satisfy any person enquiring, you are at liberty to refer to me, No. 150 Washington St., Jersey City. Yours respectfully,
T. L. SMITH, Supt.

—

New York, March 11, 1850.

I have used the Patent India-rubber Spring purchased of Mr. Ray, upon the cars of the New York and New Haven Railroad, and have found them efficient and economical; and when applied to the axles and draw springs, believe them to be quite equal to any in use. I have found a combination of these springs with a steel spring under the transom beam a very satisfactory arrangement, and am now using this plan in all new cars. Yours respectfully,
ROBERT SCHUYLER.

—

February 25, 1850.

From practical observation of the use of the India-rubber Car Springs, manufactured and sold by your company, we are entirely satisfied in their application, and do not hesitate to recommend them as elastic, durable, requiring no repairs for years, and retaining their consistency during all extremes of weather. We have applied them for the past two years, and consider them superior for all railroad purposes.

Yours truly,
OSGOOD BRADLEY, Car Builder, Worcester.
T. & C. WASON, do. Springfield.
DEAN, PACKARD & MILLS, do. do.
DAVENPORT & BRIDGES, do. Cambridgeport.

—

Office of the New Jersey Railroad Co.,
Jersey City, March 7, 1850.

This is to certify that we have had Mr. F. M. Ray's India-rubber Springs in constant use under our cars, and as Bumper Springs for upwards of two years, and they have in every way given perfect satisfaction.

The present form of spring we deem far superior to the form of Disk, having used both forms, although we have none of those made in Disks at present in use.

We take pleasure in recommending these springs to all railroad companies.
J. P. JACKSON, Vice Prest.
New Jersey Railroad and Trans. Co.

—

Roxbury, February 28, 1850.

In compliance with your request, I take great pleasure in stating the result of my experience in the use of "Ray's Patented Vulcanised India-rubber Car and Engine Springs." We have used them nearly two years, and never had one fail in any way. The *cold weather* does not affect *them*, as it has *other* rubber springs we have used.

With sixteen years' experience as superintendent of machinery on the Boston and Providence railroad, I take pleasure in saying that your springs are the best we ever used, or I ever saw used elsewhere. We have 20 cars rigged with them, of which I can say that the springs are as good now as when first applied. I put 24 lbs. of the rubber under the forward end of one of our heaviest engines, taking off 250 lbs. of steel springs—it has been in use 18 months, and is in as good condition now as when first put under the engine.

Very respectfully yours,
GEO. S. GRIGGS,
Supt. of Machinery, Boston and Prov. R.R.

Fall River, February 2, 1850.

In answer to yours of the 20th ult. I would say that this company has for some 10 or 12 months past been using "Ray's India-rubber Springs." We have applied them to both passenger and freight cars with uniform success. They have invariably preserved their elasticity and consistency through all the extremes of weather; and we are now applying them whenever the steel spring fails. I am well satisfied that they are particularly adapted for railroad purposes.

Very respectfully yours,
GEO. HAVEN,
Supt. Fall River Railroad.

—

Jersey City, March 9, 1850.

This is to certify that the present form of Mr. F. M. Ray's India-rubber Car Spring I consider far superior to the form of Disk, having used both forms.

I take pleasure in recommending these springs to all railroad companies. DAVID H. BAKER,
Foreman of Car Shop of N.J. R.R. & Trans. Co.

—

Boston, March 5, 1850.

In answer to your enquiry about India-rubber Springs, I have to say that we have used them to a considerable extent on both freight and passenger cars, and also on several of our tenders; and I am very well satisfied that they answer all the purposes for which they are intended. I believe the India-rubber will soon supersede all other springs for cars and tenders. Yours truly, S. M. FELTON,
Supt. Fitchburg Railroad.

—

Old Colony Railroad Office,
Boston, March 6, 1850.

EDWARD CRANE, Esq.,
President New England Car Co.,

Dear Sir: In compliance with your request I would state that the Old Colony Railroad Comp'y have had in use upon their road, India-rubber Springs furnished by your company, for more than eighteen months past, during which time they have been extensively used under Passenger and Freight Cars, Locomotive Tenders, and for Drawer and Buffling Springs, with the most perfect success. The elasticity and consistency of the Rubber has never been unfavorably affected by either extremes of heat or cold—and from the experience which we have had in the use of Rubber Springs, I think them well adapted for railroad purposes—and therefore we have for some months past used Rubber almost exclusively, in all places where springs are required.

Respectfully yours, etc.,
JAS. H. MOORE,
Supt. O. C. Road.

—

Troy, February 27, 1850.

We have been using your India-rubber Car Springs for nearly two years—and we take pleasure in saying that in our opinion the rubber has to a certain extent already, and may eventually entirely supersede all other Springs for Railroad Car purposes. We now use it entirely for Draw Springs and Bumpers, considering it better and lighter than steel.

During our two years' experience in the use of it, we have not known any to lose their elasticity, or fail in any way; and we cheerfully recommend the rubber for railroad car springs. Very respectfully,
EATON, GILBERT & CO.

To Practical Machinists.

AN excellent opportunity now occurs to a practical Machinist, of WELL ESTABLISHED REPUTATION, and some capital, to engage extensively in the STEAM ENGINE, BOILER AND FOUNDRY BUSINESS.

An establishment is now ready for business, ample in all its details, including extensive wharf room, for any sized steamboats, and from its position, if properly conducted, will doubtless command a large share of business.

A practical Machinist, as a partner is required, to conduct the whole establishment: and only those FULLY COMPETENT need apply. Address (post paid) "MACHINE CO.," Box No. 741, Philadelphia, Pa.
1m14

Etna Safety Fuse.

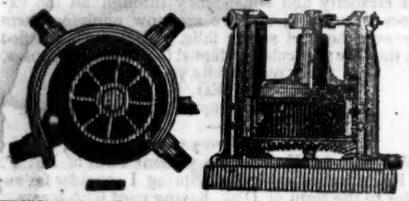
THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of
REYNOLDS & BROTHER,
☞ *Sole Manufacturers.* ☜
No. 85 Liberty St.
NEW YORK.
And in the principal cities and towns in the U. States.

☞ The Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 3, 1849. 1y

MACHINERY.

Henry Burden's Patent Revolving Shingling Machine.



THE Subscriber having recently purchased the right of this machine for the United States, now offers to make transfers of the right to run said machine, or sell to those who may be desirous to purchase the right for one or more of the States.

This machine is now in successful operation in ten or twelve iron works in and about the vicinity of Pittsburgh, also at Phœnixville and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has give universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous: considerable saving in first cost; saving in power; the entire saving of shingler's, or hammersman's wages, as no attendance whatever is necessary, it being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required. The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal as under the hammer. The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery. The bars roll sounder, and are much better finished. The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated. For further particulars address the subscriber at Troy, N. Y. P. A. BURDEN.

Railroad Spikes and Wrought Iron Fastenings.

THE TROY IRON AND NAIL FACTORY, exclusive owner of all Henry Burden's Patented Machinery *for making Spikes*, have facilities for manufacturing large quantities upon short notice, and of a quality unsurpassed.

Wrought Iron Chairs, Clamps, Keys and Bolts for Railroad fastenings, also made to order. A full assortment of Ship and Boat Spikes always on hand.

All orders addressed to the Agent at the Factory will receive immediate attention.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

RAILROAD WHEELS.

CHILLED RAILROAD WHEELS.—THE UNdersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of spokes or discs, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way,

A. WHITNEY & SON,
Willow St., below 13th,
Philadelphia, Pa.

CHILLED RAILROAD WHEELS.—THE UNdersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

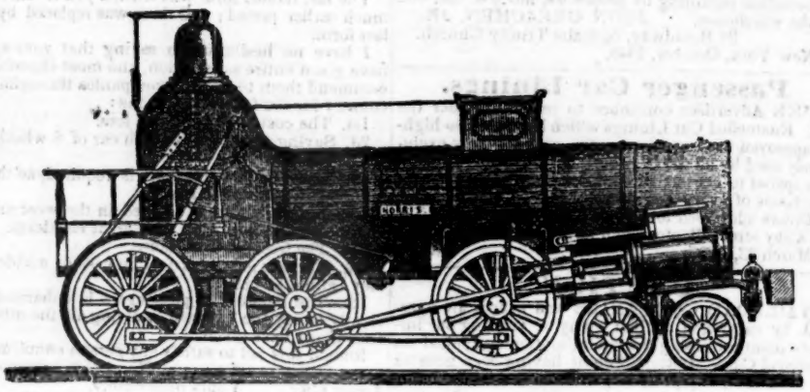
A. TIERS,
Point Pleasant Foundry.

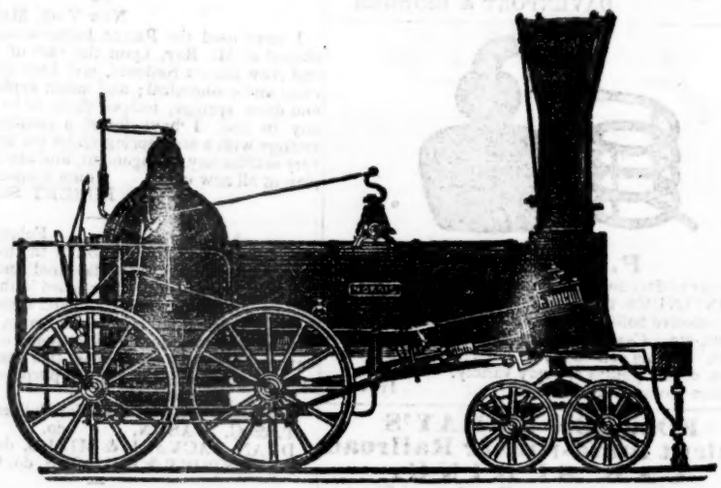
He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co.,
March 12, 1848.

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being given, the Tires are made to fit on same without the necessity of turning out inside.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This Cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms, and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front-street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y.

PATENT MACHINE MADE HORSE-SHOES.

The Troy Iron and Nail Factory have always on hand a general assortment of Horse Shoes, made from Refined American Iron.

Four sizes being made, it will be well for those ordering to remember that the size of the shoe increases as the numbers—No. 1 being the smallest.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

COLUMBUS, OHIO,

Railroad Car Manufactory.

RIDGWAYS & KIMBALL,

HAVE established at this central point, the manufacture of Passenger, Freight, Gravel and Hand Cars for Railroads, and assure all Western Railroad Companies that it will be their constant aim to procure the best materials and workmen, and to turn out the best kind of work at fair prices. Specimens may be seen on the Columbus and Xenia Railroad. The patronage of Railroad Companies is respectfully solicited. 1y8

To Inventors and Patentees.

OWEN G WARREN, ARCHITECT, Has had many years' experience as Agent for obtaining Patents, both in this country and Europe, and will transact such business promptly and reasonably. Persons at a distance can have their business done by correspondence—without the necessity of visiting this city or Washington. Office No. 94 Merchants Exchange, Wall st., corner of Hanover st., up stairs. 1y3

LAKE SUPERIOR LINE.
Cleveland and Detroit,

TO

SAULT STE. MARIE, CARP RIVER, COPPER HARBOR, EAGLE RIVER, ISLE ROYAL, ONTONAGON AND LA POINT.

The Proprietors of this line having added largely to their facilities for transportation on this route, will be prepared to ship Goods to any part of Lake Superior during the coming season, and contract for the delivery of Copper Ore to either Boston, New York, or Pittsburg, being connected with the Troy and Western Line, from Detroit to New York, and a Daily line of Canal Boats

FROM CLEVELAND TO PITTSBURG.

Lakes Huron and Erie.

For this portion of the route, the Proprietors are fitting up a large Boat, with a powerful low pressure engine, and a spacious upper cabin, with state rooms, to take the place of the Franklin, which will leave CLEVELAND every *Monday Evening* at 7 o'clock, and DETROIT every *Tuesday Afternoon* at 2 o'clock, going to MACKINAW and the BRUCE MINES, and arriving at SAULT STE. MARIE on Thursday morning. The Franklin will leave Detroit every Friday for Mackinaw and Sault Ste. Marie, via the Bruce Mines. For the transportation of heavy masses of *Copper*, a Propeller will make trips as occasion may require.

Lake Superior.

Mr. McKnight, one of the Proprietors, is constructing a Wharf to the Channel Bank, at the head of the Portage, which will enable them to load their Propellers, NAPOLEON AND INDEPENDENCE, with but 24 hours' detention at Sault Ste. Marie. One of the Propellers will leave every *Friday*, making a trip through the Lake, touching at Carp River, Ontonagon and Isle Royal.

The great expense incurred in building wharves to facilitate business, it is hoped, will entitle the Proprietors of this Line to Patronage. Goods shipped by either G. WILLIAMS & CO., or S. P. BRADY, Agents, Detroit, will be receipted through to their destination on Lake Superior. Letters addressed to S. McKNIGHT, Detroit, or Sault Ste. Marie, will receive attention. Supplies will be purchased and delivered at any point on Lake Superior, on the best possible terms, and all orders filled with articles of as good quality as the market affords.

Canada Line.

To facilitate the forwarding of Goods for the Canada Companies, a connection has been made with PARK & CO., managing owners of the Propeller *Earl Cathcart*, forming a direct line from Montreal to the Bruce Mines and Sault Ste. Marie. Goods sent by this line, care of PARK & CO., Amherstburg, or CHAS. HUNT, Esq., Windsor, will be immediately forwarded, and at prices decidedly to the advantage of parties in Toronto or other Canadian Ports.

S. M'KNIGHT,
J. R. LIVINGSTON,
P. B. BARBEAU.

January, 1850.

AGENTS.

G. Williams & Co., } Detroit.
S. P. Brady, }
P. L. Sternberg & Co., Buffalo.
Charles Hunt, Windsor.
Park & Co., Amherstburg.
W. A. Otis & Co., } Cleveland.
Crawford and Chamberlain, }
Rice, Clapp & CO., New York.
W. M. Gorrie, Toronto.

MACHINE WORKS OF ROGERS KETCHUM & GROSVENOR, *Patterson, N. J.* The undersigned receive orders for the following articles manufactured by them of the most superior description in every particular. Their works being extensive, and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and dispatch.

Railroad Work.—Locomotive Steam Engines and Tenders; Driving and other Locomotive Wheels, Axles Springs and Flange Tires; Car Wheels of Cast Iron a variety of patterns and chills; Car Wheels of Cast Iron with wrought tires; Axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and millwright work generally, hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Patterson, N.J. or 74 Broadway, New York.

CENTRAL RAILROAD FROM SAVANNAH TO MACON, (Ga.) 190¼ miles.

Passenger Trains leave Savannah and Macon daily at 7 a.m.

Passenges trains arrive daily at Savannah, 6 15 p.m.
" " " " Macon, 6 45 p.m.

This road, in connection with the Macon and Western road from Macon to Atlanta, and the Western and Atlantic road from Atlanta to Dalton, now forms a continuous line of 391¼ miles in length* from Savannah to Dalton, Murray county, Ga. and with the Memphis Branch railroad, and Stages connect with the following places:

Tickets from Savannah to Macon,		$5 75
" " "	Atlanta,	9 50
" " "	Augusta,	6 50
" " "	Columbus,	15 00
" " "	Opelika,†	17 00
" " "	Jacksonville, Ala.,	20 00
" " "	Talladega, } Huntsville } Ala.,	22 00
" " "	Decatur, }	
" " "	Tuscumbia, Ala.,	22 50
" " "	Tuscaloosa, Ala.,	
" " "	Columbus, Miss, }	28 00
" " "	Aberdeen, " }	
" " "	Holly Springs	
" " "	Nashville, Tenn. }	25 00
" " "	Murphreesboro' }	
" " "	Columbia, do.,	30 00
" " "	Memphis, do.,	

An extra Passenger Train leaves Savannah on Saturdays, after the arrival of the Steam-ships from New York, for Macon, and connects with the Macon and Western railroad; and on Tuesdays, after the arrival of the Macon and Western cars, an extra Passenger Train leaves Macon to connect with the Steam ships for New York.

Stages for Tallahasse and intermediate places connect with the road at Macon, Mondays, Wednesdays, and Fridays, and with Milledgeville at Gordon daily.

Passengers for Montgomery, Mobile and New Orleans take stage for Opelika from Barnesville through Columbus, a distance of 97 miles, or from Griffin thro' West Point, a distance ot 93 miles.

---

* The Western and Atlantic railroad will soon be completed between Dalton and Chattanooga, a distance of 423¼ miles from Savannah, of which due notice will be given.

† Head of the West Point and Montgomery railroad, on which the fare to Montgomery is about $2.

RATES OF FREIGHT FOR MERCHANDIZE GENERALLY, FROM SAVANNAH TO MACON.

Measurement Goods.—Boxes of hats, bonnets, furniture, shoes, saddlery, dry-goods, and other measurement goods, per cubic foot - - 13 cents.
Crockery Ware, in crates, boxes or hhds, per cubic foot. - - - - 10 "
Goods by Weight, 1st class.—Boxes of glass, paints, drugs & confectionary, per 100 lbs., 50 "
2d class—Sugar, coffee, rope, butter, cheese, lard, tobacco, leather, hides, copper, sheet and hoop iron, tin, hard and hollow ware, rice, boxes soap and candles, bagging, and other heavy articles not enumerated below, per 100 lbs., - - - - - 45 "
3d class—Flour, bacon, liquors, pork, beef, fish, tallow and beeswax, per 100 lbs., 40 "
4th class—Mill-gearing, pig and bar iron, grind and millstones, nails, spikes and coal, 100 lb. 30 "
Barrels of beets, bread, crackers, potatoes, ice, fruit, oysters, onions, and all light bbls, each, 75 "
Oil and molasses per hhd., (smaller casks in proportion) - - - $6 00 "
Salt per sack not exceeding 4 bushels, - 50 "

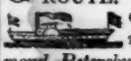
☞ Goods consigned to Thos. S. Wayne, Forwarding Agent, Savannah, will be forwarded free of commission. WM. M. WADLEY, Supt.

Savannah, Ga., February 24, 1850.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No 23 Pear street, near Third, below Walnut, Philadelphia.

GREAT NORTHERN & SOUTHERN MAIL ROUTE. From New York to Charleston, S. C. daily, via *Philadelphia, Baltimore, Washington City, Richmond, Petersburg, Weldon and Wilmington, N. C.*



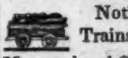
Travellers by this route, leaving New York at 4½ p. m., Philadelphia at 10 p.m., and Baltimore at 6 a.m., proceed without delay at any point on the route, arriving at Richmond, Va., in a day, and at Charleston, S. C., in two and half days from New York.

Through tickets from New York to Charleston, $20 00
" " Baltimore to Richmond, 7 00
" " " " Petersburg, 7 50

For tickets to Richmond and Petersburg, or further information, apply at the *Southern Ticket Office, adjoining the Washington Railroad Ticket Office, Pratt Street, Baltimore.* STOCKTON & FALLS.

October, 1849.

ST. LAWRENCE & ATLANTIC RAILROAD COMPANY.



Notice is hereby given that the Trains run twice per day between

Montreal and St. Hyacinth, leaving each terminus alternately, until further notice.

Leaving St. Hyacinth at - - 7 am.
" " - - 3 pm.
Leaving Montreal at - - - 10 am.
" " - - - 6 pm.

THOMAS STEERS, *Secretary.*

May 31, 1849.

WESTERN AND ATLANTIC RAILROAD, FROM ATLANTA, GA., TO CHATTANOOGA, TENN. 140 Miles.

PASSENGER SCHEDULE.

Leave Chattanooga daily, Sundays excepted, at 8½ a.m.
Arrive at Kingston . . . by 12 m.
" Dalton . . . by 3 p.m.
" Chattanooga . . . by 6 "
Leave Chattanooga daily, Sundays excepted, at 7 a.m.
Arrive at Dalton . . . . by 9½ "
" Kingston . . . by 12 m.
" Atlanta . . . . by 4 p.m.

The fare is now permanently reduced to *three* cents per mile for way as well as through Passengers; children and servants *two* cents per mile.

There are two Railroad routes from Atlanta to the Seaboard, viz: one by the Georgia Railroad to Augusta, and thence to Charleston by the South Carolina Railroad; the other by the Macon and Western Railroad to Macon, and thence to Savannah by the Central Railroad.

At Kingston, 60 miles north of Atlanta, the Rome Railroad branches off to Rome on the Coosa river, which admits of steamboat navigation as far down as Greensport in Ala. Mail stages are in operation from Rome leading towards Tuscaloosa, Ala., Columbus, Miss., Memphis, Tenn., etc.

At Dalton, 100 miles north of Atlanta, a line of stages branches off to Knoxville, Tenn., which will be superseded by the East Tennessee and Georgia Railroad as rapidly as the same is completed.

At Chattanooga a number of steamboats are in successful operation on the Tennessee river, and from that terminus of the road stages run to Nashville, which will be superseded by the Nashville and Chattanooga Railroad as rapidly as the same is completed.

WM. D. FULLTON, Supt. Transp.
Transportation W. & A. R. R., }
Atlanta, March, 1850. }

CAR MANUFACTORY
CINCINNATI, OHIO.

KECK & DAVENPORT WOULD RESPECTfully call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, Oct. 2, 1848. 44f

FOWLER M. RAY'S
METALLIC INDIA RUBBER CAR SPRINGS.

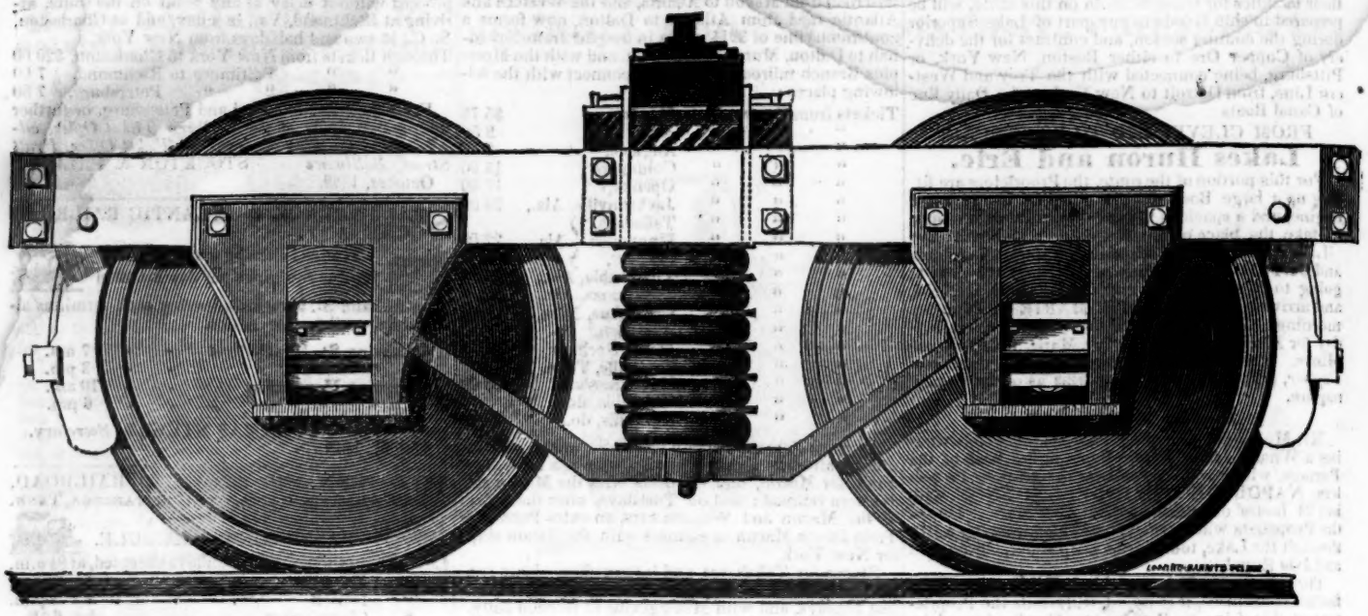


Fig. 1.

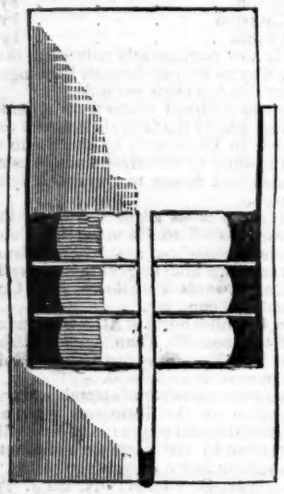


Fig. 2.

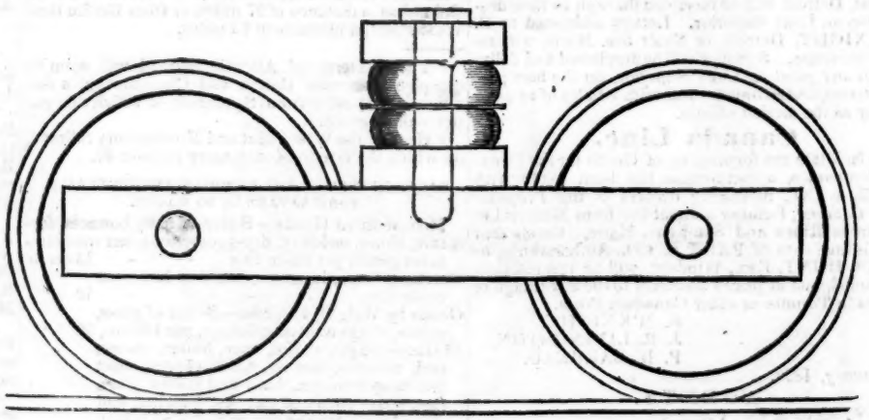
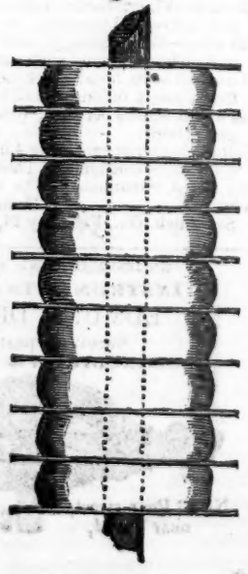


Fig. 3.



So much has been published for the purpose of misleading the public in regard to the inventorship of the India-rubber Railroad Spring, patented in the United States by Mr. W. C. Fuller, that the New England Car Company, proprietors of this invention, have deemed it proper, for the information of Railroad Companies, Car Builders and the public generally, to lay before them the facts upon which they found their claim to this invention, and to a Patent therefor.

Cut No. 1, Represents a cross section of the first model made by Mr. Tucker, under the direction of Mr. Ray, in the summer of 1844, and to which Mr. Tucker, Mr. Bradley and Mr. Bannester testify as being the model marked "B."

Cut No. 2, Represents the model made in 1845, to which Mr. Osgood Bradley and Gen. Thos. W. Harvey have testified.

Cut No. 3, Represents a rough sketch made by Mr. Ray in 1844, which he gave to a man about departing for England to take out some patents, who promised to write to Ray after his arrival in that country—which promise he has probably forgotten.

Mr. W. C. Fuller, of England, patented the above Spring in that country on the 23d October, 1845. He filed his enrollment April 23d, 1846, and on the 22d October, 1846, he took out a patent in the United States under the title, "For Improvement in Railway Carriages," when the improvement consisted in the spring, and not in the carriage.

The reader will perceive by the annexed testimony, that the India-rubber Railroad Car Spring was invented by Mr. Ray about two years previous to the date of Mr. Fuller's enrollment.

The Depositions are omitted for want of room, but will be published in full in the course of a few weeks.

AMERICAN RAILROAD JOURNAL.
PUBLISHED BY J. H. SCHULTZ & CO.
ROOM 12, THIRD FLOOR,
No. 136 Nassau Street,
NEW YORK.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$200 00
One column "	75 00
One square "	20 00
One page per month	25 00
One column "	10 00
One square "	3 00
One page, single insertion	10 00
One column " "	4 00
One square " "	1 50
Professional *Cards* per annum	5 00

☞ LETTERS and COMMUNICATIONS to this Journal may be directed to the *Editor*,
HENRY V. POOR,
136 Nassau Street.